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WASHINGTON QUARTERLY MAGAZINE.

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☞ THE editor owes some explanation to the public, for the long interval between the publication of his first and second numbers, which he will give with all brevity and plainness. The sale of the first number was not such as to justify any hope of the work being continued without loss to the proprietors, while very general approbation was expressed of the character, form, and tendency of it. An unfortunate occurrence that defeated the first intention respecting the decorative part, also contributed to make it esteemed too expensive, and less deserving of patronage than was expected. The editor therefore had announced to his friends the determination of discontinuing it. But so convinced were some of them of the utility and desirableness of such a work issuing from the metropolis of the union, and communicating scientific intelligence no where else to be attained, while it may form a permanent, though brief, record of events interesting to every part of the union, which otherwise would perish with the ephemeral journals that now constitute almost the only vehicles of such information; that he was induced to comply with their advice to try the fate of this second number, on a reduced scale, diminishing the expense to half a dollar each number, and with improved engravings. The subjects will be found, he trusts, of unusual importance; and if in its present form it be not thought worthy of support, he can only regret that his services in this instance have failed to obtain the approbation of the country, whose best interests he has been earnestly desirous to promote.

Those who wish the editor to proceed with his labours, are requested to give in their names without delay to the publisher, Mr. P. Thompson, Pennsylvania Avenue, city of Washington.

During the present session of Congress, a bill has passed into law, dispensing with the obligation of residence two years in the United States previously to taking out a patent, in the case of Samuel Brown, (an Englishman,) and allowing a patent to be issued to him for the invention of an engine to propel boats or carriages, or to work machinery, without the aid of steam, and by a power of equal force with less danger and expense. This discovery is thought to be of the greatest imaginable consequence to the mechanical world, and may probably supersede the use of steam machinery altogether. The description, and plates illustrating it, are given in this number, and constitute, we believe, the first public communication of this interesting article. It is intended that every number of this work shall contain chiefly original matter, on American interests, and not be the mere reverberation of European literature.

INTERNAL IMPROVEMENTS.

MUCH as has been said on the subject of internal improvements, and strenuous as have been the efforts in and out of Congress to promote them, it is still capable of being urged upon new grounds, and enforced

by stronger arguments than are usually applied to it. In fact, it may be considered a moral obligation, arising out of the condition of the nation, and the singular and interesting position in which we are placed by Providence. Man was sent into the world for the express purpose of improving it, and himself. This is his high destiny, his proper business. If, instead of doing so, he neglects or deteriorates either the one or the other, he is a sinner against his nature, a rebel against the will of the Supreme Author of his existence. What countless ages our planet had wheeled its annual course round the central orb, before man came into being by the Creator's fiat, we cannot tell. But we can form some notion of what it was, or rather of what it was not, before the agent of Almighty Wisdom was made to "till the ground from whence he was taken." "*Informe ingens*," a vast unshapely mass, it served but for the habitation of creatures whose wants required no judgment for their supply, and whose eyes were ignorant of the distinction between beauty and deformity. Man was made, and an Eden arose! The impervious jungles of the east, were laid bare to the sun; rivers were restrained and regulated in their courses; cities were founded, and the arts of architecture, statuary, poetry and music, adorned and vocalized the heretofore dull, untunable world. The changes on the surface of the earth while the human race was small and feeble, must necessarily have been few and inconsiderable. But as they multiplied, the improvements advanced with increased velocity, and now the shades of departed greatness, the crumbling remains of mighty cities, bridges, aqueducts and temples, magnificent even in ruins, attest how the plains of Asia, and the shores of Africa, once swarmed with human inhabitants; and in what manner they fulfilled their destiny, so as to leave imperishable evidence of their existence and power behind. The contemplation of their works, and the knowledge of their languages, afford, indeed, the chief employment of the education and thoughts of a large, and most valuable, portion of human beings, in all succeeding generations.

Under happier circumstances, and with superior advantages, has the Supreme Arbiter allotted to us this western continent. Something, yea much has been done, it is true, to assert and evince, the almost miracle-working power of civilized man; and splendid cities, at graceful intervals, adorn the Atlantic shores; our rivers and harbours are ornamented with human art, and enlivened by the swelling sails, and splashing oars, of restless commerce, interchanging the wealth of all its parts. In one part of the union especially, the ameliorating influence of unceasing industry, and diligent application, have created noble improvements in the science of education, in the diffusion of learning, in agriculture and manufactures, and impressing the strong lineaments of national character upon the produce of the earth and the works of social man.

The genius of the waters has sent the freshening streams of the western lakes, to commingle with those of the rivers that pour their currents into the ocean, whose indulating waves alternately kiss the shores of America and Europe. The state of New-York, has earned for herself immortal honors, as well as unfailing wealth, by this magnificient work,

We envy her not this distinction, but are proud of belonging to the same confederacy with herself. We hope her example will be followed by Maryland and Virginia, encouraged by the smiles of the general government; and that over the Alleghany ridge, in spite of nature's impediments, the products of the west will soon float down, with cheap and easy transit, to be exchanged for the commerce of the world, on the shores of the Chesapeake. Most unwise are those jealousies, founded on some supposed local interests, that would obstruct the execution of this grand project. No work can be more truly national than this. It would revivify and strengthen every part. The wealth it would create in the very centre of our union, would diffuse its influence to every extremity of the country. In peace, and in war, it would be the channel of abundance, and the bond of safety between the eastern and western states. The steps that have been taken towards the accomplishment of this noble object, will be seen in a following article.

The general question of the constitutional power of the national government to undertake and prosecute internal improvements, has again been warmly discussed in Congress, in the debate on the "Bill for obtaining the necessary surveys on the subject of roads and canals:" Out of many excellent arguments for the proposed measure, we have only room to insert a short extract from the speech of Mr. Stewart of Pennsylvania, January 28, 1824, which conveys patriotic truths and obligations, that cannot be too warmly urged on the attention of Americans.

"Possessing, as we do, the only free government upon earth; blessed by Divine Providence with every variety of climate and of soil, unconnected with Europe, and strangers to the storms which disturb her repose, enjoying tranquillity at home, and at peace with all the world, it is the policy of this government to turn its attention to its own internal improvement, to bring into activity its own immense resources, which, as yet, were but partially developed; to minister to the wants, and relieve the distresses, of our own people, by seeking out, and adopting appropriate remedies, by building up proud and permanent and glorious monuments of internal improvement, which will remain to the latest posterity as so many memorials of the wisdom and munificence of their ancestors. Unique in our situation, occupying a proud pre-eminence among the nations of the earth, sir, we owe a great example to the world, not by conquering and destroying nations, but by cultivating the arts of peace, by making our people as prosperous and as happy as they are free. His heart, Mr. S. said, beat high with joy and gladness when he contemplated the delightful prospect which, he, flattered himself, was rapidly rising into view, when this nation would cease to be dependent upon European skill and industry for the supply of its wants; when we should enjoy the utmost degree of prosperity; when New-England, now sufficiently populous, instead of Old England, should become the great and principal seat of our manufacturing establishments—the south cultivating and supplying raw material, while the west, offering to the hand of agriculture a rich and productive soil, will always afford the bread stuffs in abundance. Thus the great sections of our republic will become customers instead of rivals, mutually dependent upon each other both for a market and supply. Then, with the proposed system of internal improve-

ment, by which the provisions of the west would find a rapid, cheap, and easy conveyance to the east, in exchange for return cargoes of manufactured articles, and the cottons of the south enjoying similar facilities of exchange with the north, our independence would become perfect, and our union indissoluble."

The following is the bill which has passed the House of Representatives on this subject:

"Be it enacted, &c., That the president of the United States is hereby authorized to cause the necessary surveys, plans, and estimates, to be made of the routes of such roads and canals as he may deem of national importance, in a commercial or military point of view, or necessary for the transportation of the public mail; designating, in the case of each canal, what parts may be made capable of sloop navigation: the surveys, plans, and estimates, for each, when completed, to be laid before Congress.

"And be it further enacted, That, to carry into effect the objects of this act, the president be, and he is hereby authorized to employ two or more skilful civil engineers, and such officers of the corps of engineers, or who may be detailed to do duty with that corps, as he may think proper; and the sum of 35,000 dollars be, and the same is hereby appropriated, to be paid out of any moneys in the treasury, not otherwise appropriated."

The nation has thus gained one great step towards the attainment of these objects; and it cannot be doubted that the weight and importance of the measures contemplated, will insure such successive operations in the same direction, that in a few more years improvements, more wonderful than any similar space of time has witnessed, will be completed.

CHESAPEAKE AND OHIO CANAL.

At the opening of the session of Congress, the president in his message, adverted to the popular excitement in regard to the projected canal to connect the eastern and western waters in the center of the union, and strongly recommended the subject to the consideration and aid of Congress. In every part of the nation, and even in foreign countries, this message of president Monroe has been justly eulogised as one of the most important, enlightened, firm and patriotic, executive communications, that has ever been promulgated. Its influence on the external relations of our country, will extend far beyond the interests or existence of the present generation. Nor does the following extract, respecting internal improvement, yield, in political wisdom, condensation of thought, perspicuity of expression, and just enumeration of prospective advantages, to any other of the topics, numerous and weighty as they are, which the message contains.

"Many patriotic and enlightened citizens, who have made the subject an object of particular investigation, have suggested an improvement of still greater importance. They are of opinion that the waters of the Chesapeake and Ohio may be connected together, by one continued canal, and at an expense far short of the value and importance of the object to be obtained. If this could be accomplished, it is impossible to calculate the beneficial consequences which would result from it. A great portion of the produce of the very fertile country through which it would pass, would find a market through that channel. Troops might be moved with great facility in war, with cannon, and every kind of munition, and in either direction. Connecting the Atlantic with the western country, in a line passing through the seat of the national government, it would contribute essentially to strengthen the bond of union itself. Believing, as I do, that Congress possess the right to appropriate money for such a national object, (the jurisdiction remaining to the states through which the canal would pass,) I submit it to your consideration whether it may not be advisable to authorize, by an adequate appropriation, the employment of a suitable number of the officers of the corps of engineers, to examine the unexplored ground during the next season, and to report their opinion thereon. It will likewise be proper to extend their examination to the several routes through which the waters of the Ohio may be connected by canals, with those of lake Erie."

In the month preceding the meeting of Congress, a Convention was held in the city of Washington, for the purpose of discussing the various suggestions, that have been laid before the public, on the subject of a grand union canal, and to adopt such measures, as might appear suitable to put the desired object in train for its accomplishment.

This convention consisted of not less than one hundred and fifty persons; being delegates for the purpose, from the states of Virginia, Maryland, Pennsylvania, Ohio, and the district of Columbia. It was justly observed in the public papers, on the occasion, "that a more respectable assemblage of substantial citizens, in pursuit of a grave purpose of utility, was perhaps scarcely ever convened in any country. The proceedings were conducted with dignity, with a single eye to the public good, and terminated in the adoption of measures worthy of the subject and of their authors."

The following, are the most important of the resolutions adopted by this convention:

"Whereas a connection of the Atlantic and western waters, by a canal leading from the seat of the general government, to the river Ohio, regarded as a local object, is one of the highest importance to the states immediately interested therein, and, considered in a national point of view, is of inestimable consequence to the future union, security, and happiness of the United States:

"1. Resolved, unanimously, That it is expedient to substitute, for the present defective navigation of the Potomac river above tide water, a navigable canal, by Cumberland to the mouth of Savage creek, at the eastern base of the Alleghany, and to extend such canal, as soon thereafter as prac-

ticable, to the highest constant steam-boat navigation of the Monongahela or Ohio river.

"That the most eligible mode of attaining this object will be by the incorporation of a joint stock company, empowered to cut the said canal through the territory of the United States in the district of Columbia, and of the states of Virginia, Maryland, and Pennsylvania; and, therefore, that committees be appointed, each consisting of five delegates, to prepare and present, in behalf of this assembly, and in co-operation with the central committee, hereinafter provided, suitable memorials to the Congress of the United States, and the legislatures of the several states before named, requesting their concurrence in the incorporation of such a company, and their co-operation, if necessary, in the subscription of funds for the completion of the said canal:

"And, whereas, by an act of the General Assembly of Virginia, which passed the 22d February, 1823, entitled, 'An act incorporating the Potomac canal company,' the assent of that state, so far as the limits of her territory renders it necessary, is already given to this OBJECT, and for ITS enlargement, to the extent required by the preceding resolution, the said act appears to furnish, with proper amendments, a sufficient basis:

"BE IT THEREFORE RESOLVED, That it will be expedient to accept the same as a charter for the proposed company, with the following modifications, viz.:

"That, in reference to its enlarged purpose, the name be changed to 'The Chesapeake and Ohio canal.'

"That provision be made for the assent of the government of the United States and of the state of Pennsylvania, to the said act, and that the act be made to correspond in its details with such provision.

"That the Chesapeake and Ohio canal shall be divided into two sections, eastern and western; the former of which shall correspond in description with that of the Chesapeake and Ohio canal, by the preceding resolution, and the latter shall begin at the western extremity of the former, and terminate at the head of the steam-boat navigation of the Monangahela or Ohio river.

"That, while the act shall allow a reasonable time for the commencement and the completion of both sections of the canal, no other forfeiture shall be incurred, after the eastern section is finished, for a failure to begin or complete the western section, within the term prescribed, except of the right to complete such section, and of all interest therein.

"That while the consent of Pennsylvania is provided for, in the amended act, it shall not be indispensibly requisite to the validity of the charter, so far as respects the authority granted by it, to extend the Chesapeake and Ohio canal to the Pennsylvania line.

"That it will be both just and expedient, if not absolutely necessary, to limit the interests of the stockholders of the Potomac company, in the stock of the Chesapeake and Ohio canal, in the mode provided by the unanimous resolution of the company, of the 7th day of February last, a copy of which is hereto annexed.

"That the said canal shall not, in width, be less at the surface than 40 feet, at its bottom than 28, nor its depth of water be short of four feet, except where from the nature of the ground, it may be necessary, for the

greater security of the banks of the canal, to reduce its breadth at its base to less than 28 feet.

"That the maximum profit of the said company shall not exceed 15 per cent. after the entire canal shall have been completed; but, if, at any time after the completion of the eastern section thereof, and before sufficient funds shall have been otherwise provided for the completion of the western, the tolls of the canal shall yield a nett income to the stockholders exceeding 10 per cent. per annum, such excess shall be applied towards the extension of the canal until the western section shall have been completed; and, to give more speedy effect to this provision, the president and directors of the Chesapeake and Ohio canal company shall be authorized to borrow, or may negociate through a suitable agency, in behalf of the company, on the credit of such excess, or on the tolls, or a fixed part thereof, levied upon certain commodities passing through the said canal, being the probable amount of such annual excess, such sums of money as may be deemed expedient, by a general meeting of the stockholders, to be applied to the extension of the western section of the canal, from time to time, till the said section shall have been completed. And if, after the completion of the entire canal, the nett dividends shall exceed fifteen per cent. per annum, such excess shall be applied, first, to strengthening the works of the canal; next, to the multiplication of ascending locks from the river Potomac to the level of the canal, wherever the convenience of the adjacent country may require it; next, to lining the canal throughout, with such walls of stones as shall accommodate its banks to the use of steam-boats; and should the nett dividends still exceed fifteen per cent., then such excess shall be applied to the reduction of the tolls upon the said canal, according to some equitable scale.

"That the act aforesaid be amended, by inserting, in lieu of the 18th section thereof, the following:

'AND BE IT FURTHER ENACTED, That the right to the waters of the river Potomac, for the purpose of any lateral canal or canals, which the state of Virginia or Maryland may authorize to be made, in connection with the said canal, is reserved to the said states respectively; that a similar right is reserved to the state of Pennsylvania, in relation to the rivers and streams within the territory of that state, the waters of which may be used in supplying the western section of the said canal; that the government of the United States shall retain the power to extend the said canal in, or through the district of Columbia, on either or both sides of the river Potomac; and the state of Maryland or Virginia shall be empowered, under the sanction given by the United States to this act, to authorize any such extension for the purpose of meeting any canal, so extended, by any other canal which either state may deem it expedient to conduct in any direction whatever through its territory.

'PROVIDED, HOWEVER, That no part of the waters of the river Potomac, or of any other river or stream, required to insure the constant, safe, and convenient use of the navigation of the canal authorized to be made, shall be, by any such lateral or continued canal, diverted therefrom to the impediment or injury of the said navigation.'

"2. AND BE IT FURTHER RESOLVED, That in addition to the provision contained in the first section of the act aforesaid, there be grounded, on the event of its failure to furnish adequate funds for the completion of the

eastern section of the canal, to be obtained through separate acts of the respective governments and corporations, of the states of Maryland and Virginia, of the United States, and of the three cities of the district of Columbia, a subscription to the amount, if necessary, of 2,750,000 dollars, in the following proportions; 2-11 to be subscribed by the state of Maryland, 3-11 by the state of Virginia, 4-11 by the United States, and 2-11 by the district cities, to be divided between them, according to an equitable ratio, to be fixed by themselves. In case a part of the sum aforesaid shall be subscribed, by private individuals, in the mode provided by the act aforesaid, the several states and corporations, within which such individual subscriptions are received, shall be requested to assume, as part of their aforesaid quotas, the amount of such subscription, under such security as they may deem expedient for the payment thereof, by the subscribers, to them respectively.

"That the government of the United States be earnestly solicited to obtain the whole of this sum on loan, receivable in four annual instalments, upon the issue of certificates of stock, bearing an annual interest, not exceeding five per cent., and irredeemable for thirty years, and to guaranty the repayment thereof on a specific pledge of the public lots in the city of Washington, of the United States' stock in the canal, and the public faith.

"That the first instalment of the loan be made payable on the 1st of March, 1825, and the last on the 1st of March, 1829.

"That the interest of each state and corporation upon its proportion of the said loan, be paid into the treasury of the United States, according to the terms of the loan, and the principal sum at the expiration of thirty years, the period to be fixed for its redemption.

"That, in the event of a refusal by the government of the United States to negociate the said loan, each state and corporation shall provide the amount of its respective subscription in such manner as may seem to it best.

"3. And be it further Resolved, That a committee of five delegates be appointed to prepare, and cause to be presented, in behalf of this convention, a suitable memorial to the state of Ohio, soliciting the co-operation of that state in the completion of the Chesapeake and Ohio canal, and its ultimate connexion with lake Erie; and that, for the latter purpose, the memorial shall respectfully suggest the expediency of causing the country, between the northernmost bend of the river Ohio, and the southern shore of lake Erie, together with the waters of Great Beaver and Cayuga creeks, and all other intervening waters near the said route, to be carefully surveyed, with the view of ascertaining the practicability and probable cost of a canal, which, fed by the latter, shall connect the former.

"That a letter be addressed by the chairman of the convention, to the mayors of Alexandria, Georgetown, and Washington, apprising, through them, their respective corporations, of the proceedings of this convention, and inviting their zealous co-operation in giving to them effect.

"That another letter be addressed by the chairman, in behalf of this convention, to the president and directors of the Potomac company, requesting their concurrence in the measures recommended by the preceding resolutions."

SPECIFICATIONS OF PATENTS.*

IMPROVEMENTS IN NAVAL ARCHITECTURE.

It is hoped that the following important communications, will gain that attention from the distinguished citizenswho are intrusted with the superintendence of naval affairs, which their alledged merit seems to deserve.

The navy has been called "The right arm of the Republic," and if Mr. Thomas's improvements go directly to strengthen this arm, and perfect its operations and safety, we can scarcely think of a more useful service to the nation, than he has rendered, nor suspect that he can fail to obtain a suitable reward.

JOHN THOMAS'S INVENTIONS.

Washington, March 1st, 1824.

SIR,

The following lines exhibit the objects I had in view, in the construction of the different improvements submitted to the Committee of the Columbian Institute, appointed to examine my inventions and improvements on that subject.

The first, is the patented WEDGE BLOCKS.† The only thing I know of, that bears the least resemblance to my Blocks, are those spoken of in the *Supplement* to the *Encyclopedia Britannica*, said to be invented by Sir Robert Seppings.—The blocks constructed by him, apply only in one case; that is, in disengaging them from under a ship's keel. My blocks being differently constructed, can be taken from under a ship's keel with greater ease, because I work my rammers athwartships; Sir Robert Seppings uses his fore-and-aft. My blocks can be re-placed under the keel, should the setting of the ship on the shores be two inches. My block, also, apply to straightening a ship, when hogged; a necessary process when a ship is placed in dock for repairs. These blocks also apply to launching ships, or lifting any heavy body. By using them, they would make a saving of at least three thousand dollars, on the repair of every seventy-four gun ship in a dry dock.

The second article is the patented principle of PLANKING. The object I had in view was to strengthen the ship. It has been explained and I believe perfectly understood by the committee, that ships constructed on the common principle are very defective; that the chief defect is a want of union in the different parts. That by applying the thick plank of a ship, as shown by the model and drawing attached to the patent; the disunited timbers are completely embraced by the

* The language used in the following specifications is that of the inventors.—Ed,

† See page 62 of No. 1. Quarterly Magazine.

plank, which acts as if it were one piece. I have stated to the committee that it was inspected and approved of, by the most scientific ship-builders in the United States. This, in addition to Steel's publication on ship-building, and the fact, that one of the most experienced ship-builders ‡ in the United States, not knowing how to set the planking off on a ship, and his confession to COM. PORTER, that he was "always learning and never learnt." These are circumstances very strong in proof, that it never was seen before. The plank that was applied to the ship Potomac, being the reverse of what it should be, is also a proof of its not being before known, and may be seen on the starboard side of the said ship, between the fore and main channels. It is also a fact, that all the ships and vessels in the United States' service, were planked in the common manner, before it was applied to the frigate Potomac.

The third article is my new principle in SHIP-BUILDING. I have explained to the committee, that ships built on the common principle, in addition to the weakness occasioned from a *want of union in the different parts*, that the openings between the timbers are great evils; that they are harbours for vermin and filth; that ships having openings between the timbers, are soon sunk if they strike the ground; or what is more fatal to ships of war, by shots about the seat of water. The object I had in view in the construction of my ship, though many, may be included under three heads; the first is STRENGTH. This is accomplished by the timbers being all connected;—the plank is so constructed as to be all connected;—the beams, knees, and the other beam fastenings, are all connected; those three parts being all united, give to the ship that strength which I designed it should have. The second point I had in view, was to make the ship more *efficient in war*. This is gained by the peculiar construction of the timbers, which enables me to make the timbers of my ship perfectly solid and water-tight before any plank is applied to the timbers; so that shots lodging in the side, or shots passing through the side, and hid by the hanging knees, or the beams of the arlop dock, cannot injure my ship, though it would prove fatal to a ship of the common construction. From this it may be seen, that a ship built on the common principle, is by no means, a match for one of the same class built on the principle which I recommend; because the shots which would sink many ships built in the common manner, would not in the least endanger the crew of my ship by drowning. Many attempts have been made in England to make ships solid and water-tight, built in the common manner, but without effect. It is impossible, because there is nothing that connects the timbers but the plank, consequently there is nothing to resist the caulking of timbers before the plank is applied. There being no openings by my construction between the timbers, there is no harbour for filth or vermin; the ship is therefore more likely to be healthy in a hot climate. Steam Boats built

‡ Captain Owner, of the United States' navy-yard, Washington.

on my principle, would be much stronger and safer; the vessel being in every part solid and water-tight; whereas at present few steam vessels, have more than a two inch bottom. From the very slight structure of those vessels it is, that so many of them have been sunk on the Mississippi river, from striking sunken logs or snags.

The third object was to use *less crooked timber*, for it is difficult to be obtained even in this country. I only require for building a ship, on my principle, one-third the crooked timber used in a ship built on the common principle, of the same model and magnitude; so that I can build much cheaper.

The 4th article is the SET OF DRY-DOCKS. These sets of docks are constructed to the ebb and flow of the tides at Boston, and the ground in Charleston navy-yard. My object in their construction was chiefly economy. The greatest expense of dry-docks being in the parts connected with the gates, and the facing against the sea The bottoms of the docks are constructed to have about four feet inclination in two hundred feet, or the length of one ship, which is about what a ship floats at when light. If the ground should suit, the inclination might extend, to the length of four or five ships. My design is to have an iron rail-way, formed in the bottom of the dock, as shown in the drawings; also, a cradle, that the ship when floated in the after-dock, and grounded on my *wedge blocks*, and the water let off from the dock, the cradle is then placed under the bottom—the blocks taken from under the keel; she is then altogether on rollers, and the rollers on the iron rail-ways, so that the ship may be removed from the outer dock into either of the head docks with great ease and safety. When the ship is placed in the dock, designed for her, the wedge blocks are again placed under the keel, and taking the weight from the cradle, the cradle is removed.

The outer dock is intended for slight repairs; so that a ship coming from sea, wanting to be docked, after an action, or otherwise being leaky, may be taken into the dock at a short notice. The set of docks as shown in the drawings will not cost more than one and a half of the single docks.

The fifth article is the DOWELING INSTRUMENT. The object is to save labour. I have introduced a screw to the spill, and a gouge bitt; the instrument thus improved will bore three times as fast; and is one of the most valuable tools used in ship-building.

The sixth article is the MAST. The object is to make the mast stronger. This is gained by constructing the mast, so that the cheek shall have a straight surface, and be united to the body of the mast, with dowels, cogs, &c. as shown in the drawing. A mast thus constructed, has borne one-fourth more than the most approved mast in the United States, in the usual form.

My LIFE BOAT,* though it has been fully tested by COMMODORE BAINBRIDGE, and found so useful, I cannot at present explain to the committee, the model being lodged in the Navy Commissioners' Office.

* See page 117.

My apparatus for weighing ships, in order to obtain the displacement of water and thereby to determine the centre of gravity, I hope at some future day to submit for the inspection of the Columbian Institute.

I remain, sir,
your most ob't, &c.,

JOHN THOMAS.

To the Chairman of the Committee,
of the Columbian Institute.

REPORT OF THE COLUMBIAN INSTITUTE, ON JOHN THOMAS'S INVENTIONS.

The Committee to whom was referred the models and the preceeding papers, illustrative of Mr. Thomas's improvements in ship-building, having several times met to hear his explanations, agree to the following report; which they offer most respectfully to the Columbian Institute.

BEING desirous of doing the utmost justice to so important a branch of national interest, and of obtaining all the advantages of the most experienced, the committee invited the Board of Commissioners of the Navy, and several other scientific characters to attend, but their numerous engagements prevented the committee from enjoying the advantages of their presence. They had, however, the benefit of the particular attention of COMMODORE BARRON, than whom they could not have selected a more ingenious, scientific and practical officer. He attended and examined every improvement that Mr. Thomas brought before the committee with scrupulous minuteness, and spared no pains to make himself aquainted with every part. He declared himself highly gratified in witnessing so much ingenuity; and assured the committee that he considered the whole not only as new, but particularly valuable, and that if he had the power to put them into operation, they should all be immediately adopted; for they would not only facilitate the operation of ship-building, but tney would be cheaper; and the ships built upon the plans suggested by Mr. Thomas would last longer; would be more easily repaired; would be kept cleaner, be less liable to hog and leak; that ships of war in action would have their injuries more easily repaired than if built in the common manner. The Commodore in short, spoke in the highest terms of each and every invention submitted to him, through the committee by Mr. Thomas, and confirmed in the most satisfactory manner, the impressions that had previously been made on the committee, who viewed with great pleasure these ingenious labours; and who not only recommended them to the consideration of, and adoption by their countrymen, but who, also, consider the author of these valuable improvements as worthy of the utmost patronage of the Public.

Signed, BY THE COMMITTEE.

The above report was adopted by the Columbian Institute.

SPECIFICATION OF AN APPARATUS FOR PROPELLING VESSELS, &c., *WITHOUT THE AID OF STEAM.*

BY SAMUEL BROWN, OF ENGLAND.

DRAWING I.

Z, Z1, Z2, Z3, Z4, Z5, Z6, Z7, Z8, are frame-work and supporters.
A1, A, A2, is a beam moveable at A.
A1, Y, and A2, Y1, quadrants at the ends of the beam A1, A, A2.
D, E, F, and D1, E1, F1, are two cylinders open at their tops.
B, C, and B1, C1, are two cylinders open at their bases and capable of shutting over the parts D, E, and D1, E1, of the two cylinders D, E, F, and D1, E1, F1.
H, E, and H1, E1, are two troughs, surrounding parts of D, E, and D1, E1, whose bases receive the bases of the cylinders B, C, and B1, C1.
N, O, and N1, O1, are two cylinders.
K, L, M, and K1, L1, M1, are two pipes communicating with the cylinders D, E, F, and D1, E1, F1, having valves at L, and L1.
J, J1, is a trough or reservoir.
O, P, Q, and O1, P1, Q1, are pipes, communicating between cylinders N, O, and N1, O1, and J, J1.
W, W1, W2, W3, is a common water wheel, moveable at the axis Z7.
X1, X, X2, is a trough, surrounding half the water wheel, with an open communication at X, into the reservoir J, J1.
U, U1, is a trough or reservoir, having an open place in it at V.
G, is the receptacle for the gas.
T, T1, and T2, T3, are two pipes leading from G.
R, and R1, are empty air-tight cubic boxes.
S, S1, are common water ball cocks, in pipes W, W1, and W2, W3, having orifices in the cylinders B, C, and B1, C1, at W, and W2, and being open at W1, and W3.
a, b, and a1, b1, are chains, fastened to the beam A1, A, A2, at a, a1, and to valves at b, b1.
v, b, and v1, b1, are pipes, connecting the cylinders D, E, F, and D1, E1, F1, with the valves at b, b1.
c, d, and c1, d1, are rods, connecting the beam A1, A, A2, with the boxes R, R1.
e, and e1, are pullies, over which a chain passes, and is affixed to valves at f, and f1.
f, T3, f1, is a small pipe.
h, k, h1, k1, are gas-burners, perforated with small holes, and placed inside the cylinders D, E, F, and D1, E1, F1.
f, g, u, and f1, g1, u1, are pipes, connecting the pipe f, T3, f1, with the burners h, k, and h1, k1, by passing through orifices at u, w1, in the cylinders D, E, F, and D1, E1, F1.
l, T1, l1, is a pipe, with a small orifice at each end, at l, and l1.

m, m1, is a glass tube, with globular extremeties, and partly filled with mercury; it is attached to a rod n, q, and moveable about the point n.

o, o1, is a long link, in the chain c1, f1.

p, and p1, are thumb screws, fastened on the rod c, d.

r, s, t, and r1, s1, t1, are small chains, attached to the rods c, d and c1, d1, pass under pullies at s, and s1, and are fastened to the top of a sliding bolt t.

Let the beam A1, A, A2, be down at A1, and raised at A2, and the valves at b1, and f1, will be open, and b, and f, will be shut.

Let mercury be put into the troughs H, E, and H1, E1.

Let the mercury in m, m1, be in the globe m.

Let gas be let out of the receiver G, and pass along the two pipes T, T1, and T2, T3, and the gas entering at T1, will fill the pipe l, T1, l1, and then set fire to the gas at l, and l1.

At the same time the gas having entered the pipe f, T3, f1, at T3 will pass along the pipe f1, g1, u1, into the gas-burner h1, k1, and the flame from l1, will set fire to the gas in the burner h1, k1, at k1. Now pour water into trough J, J, and it will, by the means of the pipe O1, P1, Q1, rush into the cylinder N1, O1, float up the vessel R1, and thus move up rod c1, d1; by which means, the cylinder B1, C1, suspended at the end of the beam at A2, will fall down, and cover the part D1, E1, of the cylinder D1, E1, F1, and fall into the mercury at H1, E1.

By the motion of the end A2, downwards, the valve at b1, will shut the vessel R, will move downwards, the chain r, s, t, will be lowered, and the chain r1, s1, t1, being pulled by the rod c1, d1, as it is going up, will draw the slide t, over the hole Q1, and leave the hole Q, open; and also the thumb-screw p, striking against the rod n, q, will rise the globe m, to a greater height above the horizon, than m1, and thus the mercury will run from m, to m1, and bearing down n, q, will make it strike the long link o, o1, at o1; and thus slacken the chain o1, f1, and the valve at f1, will shut. After the cylinder B1, C1, has fallen over D1, E1, the gas continuing to go into the burner h1, k1, until the valve at f1, was shut, there will be a supply of gas until all the air in the cylinder D1, E1, F1, is consumed; and thus a vacuum is created, and then the mercury in H1, E1, will rise, amd make the cylinder air tight at the open parts. It should be observed, that at the instant the cylinder D1, E1, F1, is closed, and the valve at b1, is shut, the air in D1, E1, F1, is begun to be consumed, and that it is necessary that gas should flow into it until the air is all consumed, and no longer; and consequently at that moment, the valve at f1, should shut; the time therefore that the mercury should be moving from m, to m1, is exactly the same as that in which the air in the cylinder is being consumed; and thus the length of m, m1, and the necessary quantity of mercury is ascertained.

A vacuum being thus created in D1, E1, F1, the water in N1, O1, rushes up the pipe M1, L1, K1, opening the valve at L1, and comes into the cylinder D1, E1, F1, and meeting with the ball of the water-cock

S, makes it open the cock, by which means, the air admitted into the pipe at w2, is let into the cylinder D1, E1, F1, at w3, and the valve at L1, is shut by the weight of the water.

At that instant, put more water into the trough J, J1, and then as Q, has been opened, it will run through the pipe Q, P, O, and carry up the vessel R, which by means of the rod c, d, will lift up the beam at A2, which will move upwards, the chain a1, b1, and open the valve at b1. The water in D1, E1, F1, will then leave it at b1, and flowing along the trough U, U1, will pass on to the water wheel W, W1, W2, W3, at V, and fall into the trough X1, X, X2, and be received into the reservoir J, J1, at X, and flow again into the cylinder N1, O1.

Whilst the end A2, of the beam was down, the end A1, was up, and in its coming down, the same process was being performed on that side of the engine as to setting fire to the gas, regulating the supply, and creating the vacuum, as was done whilst the cylinder D1, E1, F, was being closed.

N. B. When a powerful engine is required, in a small space, a machine of the same construction, but of smaller proportions, may be worked with quicksilver, instead of water.

DRAWING II.

Description of using the cylinders, with the crank and fly-wheel, attached, instead of the water wheel.

O, H, H1, O1, is a cylinder.

Q, P, P1, Q1, is another cylinder, within it.

N, M, M1, N1, is a cylinder, placed between the cylinders O, H, H1, O1, and Q, P, P1, Q1, and moves the rod F, G, passing through a stuffing-box L, and fixed at F, and G.

W, V, V1, W1, is a fixed frame, having guides in the sides.

R, is a crank, moveable round S, S1.

T, T1, is a fly-wheel, having one side, heavier than the other.

R, D, is a connecting rod.

D, E, F, E1, D1, is a beam, in which the two friction wheels E, and E1, are placed.

A, B, C, and A, B, C1, are pipes, leading to the cylinders D, E, F, and D1, E1, F1, and are fastened on at the union joints K, and K1, having cocks or valves placed near those joints. The said cylinders D, E, F, and D1, E1, F1, being the same described in drawing I.; the said union joints K, and K1, being also the same described in drawing I.

S, S1, S2, S3, are the bearings.

a, a1, is common hand gear.

h, h1, is a bonnet, or cap, or nozle-box, having an orifice at A.

b, b1, is a common hollow slide, having a spring g, g1, g2, acting against h, h1.

c, and e, are passage ways, made into H1, O1, aside of the cylinder O, H, H1, O1. (d, is a passage for the admission of the atmospheric air.)

f, represents the place, at which a hole, made at the back of the nozle-box, communicates with the passage d; and thus a current of atmospheric air can enter into the nozzle-box at f, and passes under the hollow part of the slide, as it moves over d.

e, e1, e2, is a passage.

c, c1, is another passage.

Let mercury be put in between the cylinders Q, P, P1, Q1, and O, H, H1, O1, until it rise about two-thirds of the length P, Q, which of course will not exceed 30½ inches; and thus being air-tight, prevents any communication between those spaces.

Let the cylinder N, M, M1, N1, be lifted up, and then the slide b, b1, will cover the passage ways c, and d; and thus the air will find its ways from the surrounding atmosphere, enter at f, pass through d, then go under the hollow slide, and pass through c, c1, into the space between cylinder O, H, H1, O1, and the top of the moveable cylinder N, M, M1, N1.

Let a vacuum be created in one of the cylinders D, E, F, or D1, E1, F1, described in drawing I.; for instance, in D1, E1, F1, and then the cock at the union joint K1, being a direct communication through the pipe C1, A, and the passage way e, e1, e2, is made between the vacuum in D1, E1, F1, and the air in the cylinder N, M, M1, N1, and thus the air will escape out of N, M, M1, N1, and the air above it, will press the cylinder down.

As the cylinder N, M, M1, N1, moves downwards, the rod F, G, brings the beam D, E, F, E1, D1, also down; and thus by means of D, R, the crank at R, is turned round, and the fly-wheel, T, T1, is put in motion. At the same time, the common hand gear a, a1, is moved downwards, and the slide b, b1, is made to cover the passage ways d, and e. At that instant a vacuum is created in D, E, F, and the cock at K, opening then by means of the pipe C, B, A, and the passage way c, c1, a direct communication is made between the vacuum in D, E, F, and the space between the cylinders O, H, H1, O1, and N, M, M1, N1, and whilst the slide is over the passage ways d, and e, the air comes in at d, and passes through e, e1, e2, and thus the cylinder is lifted up again and continues to move up and down.

When the moveable cylinder and crank are used, the beam A1, A, A2, (in drawing I.,) will be moved by the application of a pinion to the crank at S, which will work a spur-wheel with another crank connected with the beam, the spur-wheel being of a proper size to regulate the number of strokes required for the exhaustion of the vacuum; thus moving the said beam up and down alternately, and allowing the proper proportions of time for each movement between the beam and the moveable cylinder.

Patented, March 2, 1824.

THOMAS'S IMPROVED LIFE-BOAT.

SCARCELY a month passes, but the newspapers furnish accounts of many valuable lives being lost by drowning, and that these accidents are generally occasioned by steam-boats sinking, and vessels lost at sea. The Washington Gazette, of the 15th inst., furnishes an account of the loss of *fourteen* valuable lives, in a boat belonging to the United States' schooner Shark. I should feel myself deserving the severest reproach, should I withhold from the public, the utility of my life-boat.

It is stated in the first number of the Washington Quarterly Magazine, for July, 1823, that a select committee of the British House of Commons, was appointed to investigate the steam navigation, &c.. A part of the committee's report reads thus:

"Individual security in steam-boats will always be sufficiently provided for, by the interest of the proprietors constantly contributing to do all those things which will best obtain the custom of the public. Competition in this case, as in all others, will more effectually establish those precautions which are right to be taken, than the best devised regulations of an act of Parliament. But at the same time that your committee decline to recommend any legislative controul, they are decidedly of opinion that the owners of steam-vessels who omit to provide a sufficient number of boats, to secure the safety of their passengers, in case of any sudden accident, are guilty of great neglect, and not deserving of the countenance and support of the public."

As our steam-boats are exposed to heavy seas in their voyages from New-York, to New-Orleans, and to Boston, and also those employed to cross the Chesapeake, and other bays, and boats are thought so necessary to give safety to the passengers, in case of an accident, I would recommend to the citizens of the United States my improved LIFE-BOAT. The principle and utility of it has been fully tested; one of the boats was taken to sea in the Columbus, to carry twenty-four men. I am informed that she has carried in perfect safety thirty men in a gale of wind. The boat is so constructed as not to sink, and if any water comes in over the side, it immediately runs out through a scuttle, made for that purpose in the bottom, of about ten inches square. If thirty men were to be placed in the boat, and every one dipping water from the sea, and emptying it in the boat, she would still swim at the same line: or, if the boat was to ship a sea, the effects would only be the same. The improvements I have lately made in the life-boat, render her in every respect superior to the boat as before described. The improved life-boat, would be particularly useful to packet-ships, and steam-vessels, inasmuch as perfect safety is given to the passengers.

In landing, or shipping passengers in a roadstead, they are very useful. The improved life-boat is useful to ships of war, for boarding ships at sea, assisting vessels in distress; or if an attack should be made in boats, on pirates, or others, the shots that would sink five common boats, would not in the least endanger the crew of the life-boat by drowning. I have been informed by one of the most experienced captains employed against the pirates, who knows well the construction and utility

of my life-boat, that nothing would contribute more to the safety of the officers and men on that service than my life-boat; because they are frequently obliged to pursue them among the islands. In short, the crew of every ship, and vessel, that wishes to secure their own lives, and render assistance to others, should be furnished with a life-boat. The improved life-boat, will cost about twice as much as a common boat, and from her peculiar construction will last three times as long. The apparatus is so constructed, that it is not likely to want repairs for ten years; consequently, it may at all times be relied on. If the boat should be wanted in harbours for wooding, or watering the ship, the apparatus can be removed and replaced in thirty minutes, by two men, so that the boat may be used as a common boat. The improved apparatus applies well to sailing and fowling-boats.

The life-boat that was taken to sea, in the Columbus, was built in the Washington navy yard; when she was complete, I took with me in the boat several officers of the yard, with the men, making in all sixteen, and ten oars. I had the scuttle opened in the bottom, through which the water passes out, and in this state, the boat was rowed up and down the Eastern Branch, or Anacosta; she had then one foot, two inches free-board, in mid-ships: which is about as much as common boats, and sufficient room for rowing the ten oars, double banked. Her extreme length is only 24 feet, as proper materials could not be procured, at the time she was built. She is at least the weight of eight men too heavy; this boat is now in the Charleston navy yard, near Boston. The improved life-boat, will not be more than one-half the weight; consequently more buoyant, nor will the cost be more than one-half the sum in building.

Washington, March 20, 1824.

IMPROVED HOE.

BY JOSEPH WATSON, OF NEW-CANAAN, FAIRFIELD CO., CONNECTICUT.

To all to whom these presents shall come greeting:

Know ye, that I Joseph Watson, of New-Canaan, in Fairfield county, and state of Connecticut, do hereby declare, that my invention of an improvement in the manufacture of hoes, is as follows: viz., the plate of the hoe is in common, or any form required, made of iron, or steel, or both, as the case may be, with a tongue, or shank, rivetted to the plate, with a hole or holes through the shank, to receive nails or rivets, after being driven into the handle, and the handle having a hoop or band round the end, to strengthen and secure it. The advantage of which, over the common hoe, is, that the handle can be firmly secured against any part of the hoe-plate; and be stronger with the same weight of metal; and the plate can be manufactured more expeditiously, either by rolling, or hammering, and consequently be afforded cheaper than the common hoe.

Patented, July 26, 1823.

SPINNING WHEEL.

BY CHARLES F. SCHAFFLE, OF LOUISBURG, UNION CO., PENN.

My improvement in the wheel for spinning flax, cotton, &c, for family use, consists in the manner of placing the yarn or thread on the spool.

The spinning wheel is the same as in common use, and is made in the usual way, in every respect, except as respects the spindle, and flier, and which will be here described.

The spindle is made square near the end where there is an opening for the thread to enter. There is a pulley attached to the flier, and both are made to move together on the square part of the spindle: the spool is made fast on the spindle as usual.

At a convenient distance from the spindle, and supported on a stand connected with the support of the spindle, is placed a wheel, brought to a thin edge, placed at such an inclination to its axis, as when working in the above mentioned pulley, will move with the flier, at half a revolution, the whole length of the spool. This inclined wheel is moved by a small endless screw, attached to the end of the axis of the main or driving wheel, working into a small cog-wheel, having also a small endless screw on its lower end, working into a small cog-wheel, which drives a pulley, over which a band passes to a small pulley on the axis on which is placed the inclined wheel, that moves the flier with the pulley.

The chief advantage of this improvement is, that there need be only one wire on each side of the flier with a hook: and the inclined wheel by moving the flier, saves the time and the trouble of moving the thread from wire to wire by hand; and also fills the spool more regularly than in the old mode, and prevents the thread from tangling.

Patented, February 28, 1824.

DESTROYING BED-BUGS, BY STEAM.

BY RICHARD SEALY, OF NEW-YORK.

The agent employed by the subscriber to destroy bugs in bed-steads and crevices, and also to extirpate vermin generally, is *steam*. The most convenient mode of applying this agent is that of a small portable vessel, with a steam-pipe of suitable dimensions, which pipe may be either fixed permanently at the top or side, or turn on a tight joint thereon. An aperture should be made at the top, for putting in the water or other fluid employed to produce the steam, and then to receive a tight stopple. This portable steam boiler is fitted into a portable furnace or heater, having a grating on which to place a small portion of charcoal, or any suitable combustible, with the necessary air-holes at the sides for the draught. The liquid employed may be spirits of any kind, or water, the last generally answering every purpose. When you want to des-

troy the bugs in a bedstead, or in the crevices of a wall, put some water, or spirits in the boiler, and make up a small fire on the grating, placing the boiler there-over. The whole apparatus being small, you can carry it to any place, and by pointing the tube or steam-pipe to the spot inhabited by the vermin, the steam will instantly destroy the insects and their eggs.

The portable bug-destroyer may be made of copper, sheet-iron, tin, or any other suitable material, or parts of each. Its dimensions may be such as to be most convenient. Generally, a boiler holding half a gallon will be quite large enough. But the subscriber rests his claim, not upon the dimensions or form of the apparatus, but upon this new application of heated vapour, to an important object of domestic comfort—a vapour of whatever basis, having its efficacy ensured by the heat of which it is the conductor. The higher the temperature therefore, the more certain the effect, and as such temperature can always be had in water-steam, that liquid is preferred for its safety.

The boiler is hung on centres in the heater or portable furnace, so as to allow of its being vibrated forward or backwards, in order to place the end of the tube or pipe at any crevice in a bedstead or wall, be it high or low.

In addition to the object of destroying bed-bugs and other vermin, this improvement is conceived to be also useful as a fumigator; for which purpose vinegar, alcohol or any other purifying liquid may be employed in it at pleasure; which, by being raised into steam or vapour, may be ejected with great force and effect, into the crevices of bedsteads and of rooms where the sick are, or have been, as also of cabins and holds of vessels.

Patented, June 20, 1823.

CAST-IRON GRIST-MILL SPINDLE.

BY WANTON RICE, OF ATHENS, BRADFORD COUNTY, PENNSYLVANIA.

THIS spindle runs up through the eye of the runner, so as to have a gudgeon at the upper end, to go into a plank, three or four inches thick, with wooden boxes, with keys to keep the boxes snug to said gudgeon. There is to be an eye for the bale to go through the spindle, and a point in said e e for the cock-head, for the bale to hang on; the driver slips on over the eye, and after the bush is made, it must be split in two, and the spindle must be smaller below the collar, than the collar itself, so as to put the bush in when the spindle is raised up. There must be four quarter boxes, about three inches thick, in the bush, to be wedged up snug to the collar. The foot of the spindle must be made of wrought-iron, with a socket and steel point; and there must be a point at the top of the spindle to hang so as to turn it off, and to make the collar, or the top gudgeon centre on an exact line, there must be a square just below the point at the top, for the damsel to run on; the damsel to have a socket at the bottom to fit said square.

The advantage of this spindle, in the first place, is, that a cast-iron spindle will cost but half as much as a wrought one; and in the second place, by having it run up above the runner, and a gudgeon at the top, it will not wear the bush, and by wedging up the quarter boxes occasionally, it will not leak, and the bush will not be subject to wear.

Patented, October 1, 1823.

BLASTING ROCKS.

BY EPHRAIM GILBERT, OF ROCHESTER, OF MONROE CO., N. Y.

THIS machinery is of three different kinds: the first is formed with a rod of iron of double the length of the height of the space in the bore, which contains the load of gunpowder; at the upper end of this rod is fixed a circular plate of sheet-iron, of the same diameter as the bore in the rock. An iron tube is then fixed so as to pass through the circular plate in the same perpendicular direction as the rod, and extending downwards as far as about half the length of the same; and upwards, as much as may be necessary for loading and discharging.

The above described instrument, or machine, is for the purpose of loading when the bore is perfectly dry, and may be introduced either after, or before the charge of powder, in which latter case the charge will be introduced through the tube.

The second instrument, or machine, is constructed in the same manner as the above, with the addition of a circular plate fixed at the bottom or opposite end of the bar of iron, and similar to the one described as fixed at the top. A wrapper of paper or paste-board, is fixed round the edge of the iron plates, which forms a cylinder round the rod of iron, which cylinder is smeared with pitch or other ingredient on the outside, so as to make it water-tight, it is then introduced into the wet bore, and the charge of powder admitted through the tube.

After the instrument or machine has been introduced into the bore, a wadding is rammed over it, as in the common mode of blasting rocks.

The third method is by forming a cylinder of paper or paste-board, stopped at the ends with the same material, of the diameter of the bore in the rock. In the upper end of said cylinder is a perforation in which is introduced a tube made also of paste-board, through which the charge of powder is introduced into the said cylinder.

The wadding to this last mentioned machine, must be of plaister of paris, made of a proper consistence with water.

The effect produced by this mode of blasting rocks is owing to two causes which emanate from, and are the result of the application of the said instrument or machinery.

The first is the vacuum produced in the bore of the rock, either above or below the charge, or in both, by suspending the instrument to its required height in the perforation or bore of the rock. The second is owing to the introduction of the charge through the tubes after the wad-

ding has been rammed down, which will effectually prevent many accidents similar to those that so frequently happen by the common mode of blasting rocks.

The method of setting fire to the charge, is by a train communicating with the top of the tube, which being filled with powder instantly causes the blast, without the least danger to those employed.

Patented, July 22, 1823.

BLEACHING FLAX.

BY WILLIAM CUMBERLAND, OF NEW-YORK.

After the flax or hemp is freed from its ligneous, or woody parts, take one pound, and divide it into as many parts as can conveniently be tied in the middle with a cord; if the staple of the flax is very long, it may be tied into parcels of one pound each, but in general the staple will not admit of its being tied into large bundles, without being liable to slip through the cord: hemp can be tied into parcels of one pound or more on account of its long staple.

Take the flax or hemp thus tied, and immerse it in slacked lime, of the consistence of that used for white-washing, for six hours; it should be then taken out and rinced in fair water, to free it from the lime; after this, place it in a boiler, with sufficient water to cover it, adding for each pound of flax, four ounces of common pot, or pearl-ash, boil it about six hours, supplying from time, to time, with fresh water, as evaporation takes place. When the flax or hemp, is sufficiently boiled, the fibres feel very slippery between the fingers: during the operation of boiling, the flax or hemp is to be frequently dipped in and out of the alkaline liquor and afterwards washed in fair water. It is then to be immersed in another solution of lime, repeatedly agitating it so as to admit the lime uniformly through the fibres. Leave it at rest in this solution for six hours, then wash it in fair water, which will free it from all its extraneous matter, leaving only the pure fibre, which will be slightly tinged with yellow. To remove this yellow tinge, immerse the flax or hemp in any acid sufficiently diluted, to taste perceptibly sour. The sulphuric acid, or oil of vitriol, is the most preferable on account of its cheapness. The flax or hemp after remaining for three hours in this acid, is to be well washed in fair water, it will then be very white, and after being passed through the hackle, will be ready for use.

The plant flax, appears to be composed of woody matter, supported by fibres which are closely united together by a mucilaginous and unctuous matter, which resists the action of water; this matter enters into combination with alkalies forming a gelatinous mass, which when combined with slacked lime forms a precipitate, that is pulverulent when dry, and it is upon this principle that lime acts in freeing the fibre from its extraneous matter.

Patented, August 27, 1822.

CONDUCTING FERRY-BOATS ACROSS RIVERS.

BY EDWARD CLARK, OF PHILADELPHIA.

In order to ascend and descend the rapids of rivers, or to cross their currents in boats with economy, ease and safety, construct a chain rope, or hawser, of the same length as the rapids over which it is desired to pass boats, secure with an anchor, or in any other way, one end of the chain, at the head or commencement of the rapids. Continue this chain parallel to the current till it passes the rapids to their foot or termination, and to the lowermost end of the chain attach a buoy. Next provide for each boat intended to navigate such rapids, two pillar blocks which attach temporarily to the gunwales of the opposite sides of the boat, and parallel to each other; yet so contrived, that at pleasure they can be lowered or raised. Directly crossing the boat, and resting on these blocks, secure a shaft furnished with two axles, which are to revolve on the pillar-blocks before described.

To each end of this shaft attach a paddle wheel, similar in form to those in general use for propelling steam-boats, but so contrived that they are to be shipped or unshipped, put together or taken apart at pleasure, as circumstances require. Make the shaft between the wheels cylindrical and of different diameters, each of which is to be grooved spirally two or three times round like the helex of a screw, so that the chain can traverse over the shaft without riding or binding. The different diameters or dimensions of the shaft are intended by shifting the chain, &c. from one to another part to regulate the velocity of the boat to the power of the current exerted on the paddle wheels, according to existing circumstances.

In many instances it may be necessary to construct boats for the express purpose of towing other boats and their cargoes over rapids; but, although they may differ in form, construction and capacity, their modes of operation will be the same, for by taking a turn or two with the end of the chain at the foot of the rapids, round the shaft, and causing it to revolve by the action of the current on the water wheels, and then taking in the chain and passing it overboard, as fast as it is disengaged by the shaft, the boat will be made to ascend over the rapids; or if a reversed turn or two of the chain be taken over the shaft at the head of the rapids, and it is *paid out*, the boat will descend over the rapids in safety. In all cases it will be necessary to govern the direction of the boat with the steering oar. In some instances it may also be necessary to anchor the boat, scow or float, in the middle of rapids, in which case, after the necessary turns of the rope or chain have been taken round the shaft, one end is to be passed over a roller or through a *block* at the head of the rapids; and the same is to be done with the other end of the rope or chain, at the foot of the rapids, when the two ends are to be joined, forming an endless rope or chain. To the part disengaged from the shaft, attach boats and they will be drawn over the rapids, or reverse the motion, and they will be towed by it. Or, disengage the ends of the rope or chain, pass the *bend* through a block or

over a roller at the head of the rapids; make one end fast to the boat wished to be passed, and manage the other end as required at the shaft on board the scow or boat at anchor.

In instances where it is required to cross the stream or river in boats propelled by the current, furnish a boat or scow with any kind of water wheel, and anchor it in the most rapid part of the stream, and a sufficient power will be acquired to pass boats in the same way or nearly so, as above described; or construct one or more water wheels with floats, cutting the plane of the motion of the wheel at an angle of 22° or 35°, or thereabouts, they being in the form of segments of a spiral float, the whole resembling that patented by Mr. Widdefield of Philadelphia, place them on the side of the boat opposed to the current, their plan of motion being transverse to the current of the flowing water. And on the other extremity of their shafts affix paddle wheels, which will be put in motion by the wheels on the other end of the shaft and propel boats. In this case, the chain or rope made fast at the opposite shores, need only pass over friction rollers. It will, however, be most advisable to dispense with the paddle wheels, and pass the rope or chain over the shaft of Widdefield's wheel, and solely rely on this method to propel boats.

The common or any steam-engine may also be employed to produce the requisite revolutions of a shaft windlass or capstan, in situations when wheels of any of the foregoing description, or the usual modes of applying the power of steam to wheels, may not succeed. The engine, it is to be observed, may be placed either in boats or on land, according as may best answer the object in view. There are many ways in which the apparatus may be varied so as to propel boats across currents and over rapids, but my object in taking out letters patent, is chiefly to secure the right of applying the current of rivers and running waters to water or paddle wheels, so as to obtain the necessary power to safely and economically navigate boats on them, and thus partially explode the expensive modes of lock and canal navigation.

Patented, June 25, 1823.

BURNING BRICKS.

BY ROBT. CRUTCHFIELD, OF BOTETOURT, CO., VA.

THE improvements referred to are as follow: The kiln to be built in proportion to the quantity of bricks to be burnt, say from twenty-three to twenty-eight feet long; the height about half the length; the pillars and eyes not differing from the old plan except in length, and the eyes having a partition wall in their centre, which is to prevent the fires operating injuriously on each other; a furnace is to be built to each eye, or on each side of the kiln, to contain the fire; the furnaces are to be about four feet long, of the same breadth, but a few inches lower than the eyes of the kiln. On the top of these furnaces build a wall or casing

reaching to the top of the kiln, observing to leave a small space between the casing and the kiln; this tends to draw the heat to the outside of the kiln. The fire is to be applied to both sides of the kiln at the same time; it being contained in the furnaces which are outside the kiln, the heat is drawn in and continues to increase, not being subject to a chill by putting in wood, as is the case with the kilns burnt in the common way. The wood need not be more than four feet long. The kiln is frequently burnt sufficiently in two days and nights, and seldom exceeds three.

This plan differs from that commonly pursued in the manner of burning, only setting fire at one side at a time and stopping the eyes on the other, continuing the fire in this way four or five days to burn the brick on the opposite side; and then closing the eyes and setting fire to the other side, continuing it nearly as long as in the first instance. In this manner the kiln becomes chilled and the breakages of brick about the eyes is considerable. The partition wall in the centre of the eyes, and the furnaces, also, constitute a difference; by means of these walls the length of the kiln is increased to nearly double that of the common mode; the furnaces give a complete control over the heat, either in keeping it to the outside of kiln or forcing it to the centre. The consumption of wood is diminished at least one-third, and a saving of about one half the time, and no increase of labour.

Patented, February 7, 1824.

RAFTS FOR TIMBER.

BY HENRY BABB, OF WESTBROOK, CUMBERLAND CO., MAINE.

Be it known, that I, the said Henry Babb, have invented, constructed, made and applied to use, a new and useful improvement in the mode of constructing booms, for the purpose of enclosing logs into a raft for the purpose of conveying them across ponds and lakes as specified in the words following, viz.

This improvement consists in the manner of constructing or uniting booms in such a manner as to be of the greatest strength and capable of enclosing any number of logs with safety, as in any other mode or manner of enclosing them, they are liable to the inconvenience of breaking or coming apart by a heavy sea. The manner of putting these booms together with square sword joints, secured with keys and bolts, and swivel, or round sword joints, secured with keys and bolts, is as follows, viz.:

1st. Those parts of the booms which are put together with square sword joints are made in the following manner. Take any number of logs, of a proper size and length, say two or more, and make mortices through each log near the ends, except the ends for the swivel or round joints, of any dimension necessary, say four by six inches. Then lap the ends by, bringing those mortices together. Pass swords of a like size, made of any kind of firm, strong, hard wood, through the mor-

tises, leaving a large, firm, strong head on the end of each sword; and let the sword pass upwards through both logs, far enough to have a good, hard wood key passed through the other end, outside of the boom log, which key should be secured in its place by an iron bolt. Or the key may have a notch on one side and a chase key on the other, having the two secured together by an iron bolt.

N. B. As to the square sword joints, as above described, the said Henry Babb, abovenamed, claims nothing as his own invention, but the use of keys and bolts in the square swords, instead of pins, to secure them in their places.

2d. The round or swivel sword joints are put together in the following manner: Near the outer ends of the logs, secured together by square sword joints as abovementioned, make a round hole of any diameter necessary, say five or six inches, in a direction perpendicular to the mortices for the square swords. Then lay the ends together, one over the other, so as to bring the holes together. Then pass round, swivel swords of a like size, made of any kind of firm, strong, hard wood, leaving a good strong head on one end of each sword, and let the sword pass up through both logs, far enough to have a good, strong, hard wood key or pin pass through its other end, on the upper side of the boom log, which key or pin should be secured in its place by an iron bolt.

The more convenient and practicable method of making the joints of these booms as above described, is to put three or four logs together in a joint. Then, if three logs be united with square sword joints, every third joint will be a swivel sword joint. And if four logs be put together and united with square swords, then every fourth joint will be a swivel sword joint; and so on, according to the number of logs in one joint.

When these joints, as above described, are joined together into booms for use, the heads of the square swords should be on the inside of the booms, and the heads of the round or swivel swords on the under side.

Any number of these joints may be put together in making booms for use as necessity may require.

The peculiar excellence of these booms over those of any other construction, which have yet been made and used, is as follows, viz.

1. Having all the logs in the booms secured or fastened together with wooden swords and keys, instead of iron swords, straps or belts, or chains, renders the booms light and more buoyant on the water, and more yielding to any pressure, either from the logs enclosed or any swell or sea, which may disturb its waters.

2. By means of the swivel or round swords at the joints, the booms are more yielding and pliable in working round rocks or points of land, or any thing which may obstruct their passage when filled with logs.

3. By means of these round or swivel swords, the booms, when empty, may be folded, bringing all the side compact together; or may be stretched out at length, bringing two sides together. By these means they are transported, when empty, across the waters with greater ease

and safety, or may be more safely and conveniently laid up when not in use.

The head works which are used with these booms, and to which the booms are attached, when in use, are constructed, as follows: They are made in an oblong square, say twenty feet by forty, more or less, made of large square, or round timber, with a like timber lengthwise through the middle. Then pass timbers of smaller size crosswise through these timbers, as near as is convenient, say three or four feet apart more or less.

Near each end of the middle timber, set a large, strong, round post, called stem and stern posts.

About one-third part of the way from the forward end, place a capstan like those used in vessels.

When in use, the booms and raft are attached to the head works thus: take a hawser hold on one end of the swivel sword joints, and belay it to the stern post on the head works.

Then the whole is put in motion thus: take an anchor with a long cable, and carry forward and cast it; and then take the cable round the capstan and wind up.

Then, if the raft should drift against any point of land, or a ledge, let go the joint, on which the belay is, and take hold of the next outer swivel sword joint, and haul away and it will swing round and clear.

The post on the forward end of the headworks is to belay to from the shore, or to lay at anchor. Over the capstan, or elsewhere, build a house for the accommodation of the workmen, with a sleeping loft. Between the timbers, running lengthwise, lay a floor on the cross timbers. Long logs, or timbers, should be placed under these head works, to float them. The bottom or floating part of these head works may be made gondola, or boat-fashion if preferred.

Patented, January 13, 1824.

DISTILLING SPIRITS OF TURPENTINE.

BY FREDERICK S. COZZENS, OF NEW-YORK.

THE petitioner and inventor claims an exclusive privilege in certain discoveries and improvements he has made in the preparation and extraction of the spirit or oil, which turpentine of the fir or pine is capable of affording. In the ordinary method now in use, experience shews there must be a heat equal to five or six hundred degrees of Fahrenheit's thermometer, or thereabouts, to raise the spirit or oil to the head, and force it down the worm and complete the process of distillation. Hence it is, that most of the oil of turpentine that is met with in commerce, is empyruematic or burnt, and paints mixed with it are prevented from drying. And the said Frederick S. Cozzens has discovered a method of distilling the oil or spirit of turpentine, with increased ease and augmented quantity, at a degree of temperature not exceeeding three hun-

dred of the said Fahrenheit's scale; or even at a range from three hundred down to two hundred and twelve, the boiling point of water. By this, his new and improved method, he makes a very important saving of time, fuel, labour and money.

For effecting this important purpose, he places a vessel of water, sufficiently capacious to hold thirty gallons, more or less, immediately over the head of the still. The water is permitted to descend from this vessel through a small tube, with a cock into a funnel, which conveys it in a gradual stream through the head of the still, thence down and on the heated turpentine, introduced to have its oil separated; or a stream may be conveyed into any other part of the still. The principle rests on the introduction of a stream of water into the still during the process of distillation, which he claims as his original invention and discovery. This stream of water being immediately converted into steam from the elevated temperature of the heated turpentine, is forced through the nozle into the worm or refrigeratory, carrying with it the dense vapour of spirits of turpentine, which being more heavy, could not ascend without a superior degree of heat. The supply of water is continued from the reservoir or tub situated above the head of the still in such quantity as to equal the quantity carried off by distillation, and for such duration as the duration of the distilling process shall require. The effect of this joint operation is singularly safe, quick and economical; the spirit or oil rises with a smaller heat and larger quantity, and of an improved quality. The watery vapour exaled with the spirituous or oily, condenses in liquid water, without injuring the oil of turpentine. The resin formed in the bottom of the still is more pure, clear and less likely to be carbonized or burnt; and the time saved by performing the process in this way, is less than one-half, than in the old method.

And for this, his new and improved method of working the still by means of water in the preparation of oil of turpentine, the said Frederick S. Cozzens, claims an exclusive privilege.

Patented, July 27, 1822.

MACHINE FOR PICKING WOOL.

BY BERIAH BROWN, OF EXETER, R.-I.

THIS improvement consists of a suitable number of steel plates or combs, attached to the circumference of the cylinders or wings of the machine by screws, (so as to be taken off for the purpose of sharpening) which are to be of the best and finest steel, generally about one-sixth of an inch in thickness, and filed on the acting edge into teeth, one-third of an inch long, properly rounded on the back side, and left flat on the forward (or acting) edge of the teeth. These are to be cut in width of about seven to the inch, and all carefully tempered. When so prepared they are applicable to all kinds of wool-pickers with feed rolls, and wings now in use; and when driven at a velocity of about eighteen hundred

revolutions per minute, are admirably adapted and far surpass any other for the manufacture of South American and all other dirty wools, throwing down the burs, sticks, &c., while the picked wool, being blown over a suitable grating, (which should be attached to all pickers) will be found in a fine, light and clean state, almost equivalent to that in which a breaker or first card leaves it.

Patented, September 2, 1822.

IMPROVED FENCE.

BY OTHELLO CHURCH, OF FRIENDSHIP, ALLEGHANY CO., NEW-YORK.

THE pillars or foundation of the fence, which may be of stone hewn to a certain height or thickness, whichever might be preferred in an elegant fence, and would be perhaps more solid and durable, but the most expensive; and may be square or pyramidical, as may suit the taste or fancy; or they may be of round, rough, irregular stone, as formed by nature, which would answer every substantial purpose fully as well as the above, and could be procured in almost all parts of the country, at a very moderate expense; or they may be blocks of timber, sawed from a tree of the proper size, and of the proper lengths, which if well covered with tar and sand on the top, would be almost as durable as stone, and the timber required for this kind of fence, would bear no proportion to what would be necessary in any of the modes heretofore used in building fences, and would suit best in countries where there are no stones to be got, and timber scarce. These pillars, whether of stone or wood, should be eighteen or twenty inches in diameter, or larger, as the weight of the fence might require. They ought to be of sufficient weight to prevent the fence from being moved with facility; and in ordinary fences of four and a half feet high, should be at least from eighteen to twenty-four inches in height from the ground. These must be placed at convenient distances from each other, calculated to suit the length of the rail. The rails extending from the middle of one of the above pillars, to the middle of the other; and may be from twenty to forty feet long, as may be most convenient. These are to be joined above the middle of each pillar, and fastened to the pillar by small iron rowels. They should be an inch and a half thick, or thicker, and six or eight inches broad.

In elegant fences, a thin board may be faced on the top of the rail, and projecting over it in front, having the holes through it to receive the rounds; so that the rounds would appear in front of the rail, instead of passing through it, as in common fences. These are intended generally to have holes, bored with a bit, through the middle of it, one inch, or an inch and a half in diameter, at proper distances from each other, (say four or six inches,) through which the rounds are to pass. In building the fence, when the pillars are a distance apart, it may be necessary to place a temporary stud, under the rail in the middle to prevent its sinking down while the rounds are driving in.

Short pieces of rail of the same description as the last, about two feet long, are placed over the joint and nailed to the main rails, which answer two ends. They will fasten the main rails more securely and afford a greater thickness of timber to support the bottom of the round.

The rounds which compose the body of the fence. They are to be just as long as the fence is calculated to be high, which would usually be four and a half feet high. These are to pass through the holes in the rails, and just to fit them, and to extend almost touching the ground, and fastened to the rails by nails, to prevent their sliding down. They may be secured at the bottom by piling small stones against their lower ends, or nailing thin plank or boards, four or five inches broad, to them. When some stones can be got, but not sufficient to build the whole fence, this mode of fence may be used to great advantage, on the top of a stone fence, six, eight, or twelve inches high. The whole fence, rails and rounds, may be painted, the rails cased, &c., which would render this description of fence, superior in point of style, usefulness and durability, to any that has ever been constructed in the United States, with a saving both of materials and expense.

The machine for making the rounds may be described in the following manner: The foundation is a plain, simple work-bench or table. On the near edge the round, in its rough state, is fastened by means of a screw or spur at each end; the round extending at least its half breadth above the table, and formed by a round plane, just to make the one side of it; loosen the screws or spur, and turn it over with the round side down, into a round groove, on the face of the table, near the edge; just large enough to receive it. In the one end, must be a small iron dog, stationary; at the other end, another small iron dog, moveable by a screw or by a spring, so that when the round, thus half finished, is received into its groove, this last dog can be moved by the screw or spring, so as to bear upon, and hold fast the other end of the round, whilst the last side is finished with the plane. The rounds may be got out of rough timber by cutting the logs to exact lengths, and riving them into their proper sizes for the rough round, or sawed to the proper sizes by means of the circular saw, and then finished as above.

What I claim as my peculiar invention, is the mode of making fence on the principle of being self-balanced in all its parts: also the use of applying the circular saw in cutting off boards from the outside of a log centering towards the heart, one edge being thicker than the other; thus enabling the workman to use the best part of the log for fine purposes, and the coarser parts for common purposes.

Patented, July 3, 1823.

MAKING WAGONS.

BY SHERMAN BLAIR, OF NEW-HAVEN, CONNECTICUT.

Know all men by these presents, that I, Sherman Blair, a citizen of the United States, of the city and county of New-Haven, state of Con-

necticut, have invented, constructed, and applied to use a new and useful improvement in the mode of making or manufacturing wagons or other vehicles, and the chairs or seats of the same, a specification of which is hereunto annexed, in the words and figures following, viz. :

This improvement consists in placing and securing by any sufficient fastening on the bottom of the wagon, or other vehicle, a sufficient number, say from four to thirty, of spiral springs, made in the form of an hour-glass (or a conical form will answer) of wire sufficiently stout for the uses you design it for. On the springs thus placed or prepared, you then set or place a false or moveable bottom, corresponding, of course, with the form of the wagon or vehicle, and attached by any sufficient fastening, to the upper surface of the springs on which it rests. The movements of this false bottom upon the springs, may be regulated by bolts or pins of wood, or metal, connecting it with the real bottom in such a manner that the bolts or pins may play or move freely up and down through the real bottom ; and to the ends of these bolts or pins, under the real bottom, a screw and nut may be attached, or pins passed through them, so as to regulate them in any manner desired. If the maker wishes to avoid having two bottoms to the vehicle, the springs are placed on, or over the axle-trees, or on boards or other timber passing from one axle-tree to the other, and then the whole body of the vehicle is placed on these springs, in a manner similar to that described above. The chair or seat of the wagon or other vehicle, is constructed upon the same principle. On a board or other sufficient bottom, a sufficient number, say from four to twenty, of the same sort of springs, are placed ; and then the chair or seat is placed on and secured to the upper surface of these springs ; and to prevent too much rocking of the chair or seat, and to secure the springs from being wrenched out of place, as well as a vertical or perpendicular pressure of the chair or seat upon the springs. Similar bolts or pins to those described above, are passed from the chair or seat, through the bottom on which the springs are set, so as to play freely in the same, and in all respects, are secured or regulated as described above. These pins or bolts, are more essential or useful to the chair, than they are to the bottom of the wagon or vehicle. The chair or seat should be so placed in the vehicle, as that the springs and the part of the chair or seat incumbent upon them, may have free motion up and down over the board or bottom on which the springs of the chair are placed.

Patented, June 20, 1823.

FULLING CLOTH.

BY M. W. NORTHRUP, & R. R. DILLON, OF NEWTON, SUSSEX CO., N. JERSEY.

It has heretofore been the custom to prepare the cloth in soap for fulling, or to full with steam. By the process herein mentioned, we are enabled to full cloth without the use of soap, or any other alkali ;

and without steam or any artificial heat, in a much shorter time, and in much greater perfection.

1st. After the oil is removed from the cloth, it is to be dried.

2d. A composition is then made of rye flour and pure water, in the proportion of four quarts of the flour, to eight gallons of water, being boiled to the consistency of a thin paste; or, the flour is mixed in hot water, the cloth is then made sufficiently wet with the paste, (which may be applied either warm or cold,) and put in the same kind of mills, and overhauled as is customary with soap or steam.

3d. After the cloth has fulled sufficiently in this manner, the paste may be washed out or scoured with pure water, in the customary manner.

4th. In the same manner, a thin paste made of wheat, oats, or barley flour, and substances of a similar nature may be used with very great advantage; the inventors therefore would reserve to themselves the right of fulling cloth with any vegetable substance whatever: so also the flour may be used in a greater or less proportion; the inventors therefore would reserve to themselves the exclusive right of using the same in a greater or less proportion.

5th. By this process, the cloth becomes fulled to a proper thickness in a much shorter time than with soap; is softer, firmer, and is less worn in the mill, and with one-fifth the expense of fulling with soap; it retains the colour of the indigo blues and all other colours that are dyed before fulling in greater perfection. By this process, cloth may be fulled equally as fast as with steam, and with as little expense, and besides the colour is less injured in the fulling.

Patented, December 4, 1823.

STEAM RICE-MILLS.

BY J. LUCAS, JR., AND J. L. NORTON, OF CHARLESTON, S. C.

JONATHAN LUCAS, jr., and JOHN L. NORTON, having invented, and and with great labour and expense constructed, two steam rice-mills, in the city of Charleston, and state of South Carolina; and have with industry and perseverance brought the machinery of the same into successful operation.

They claim as their invention, the art and process of cleaning rice by a mill propelled by a steam engine, and the adaptation of intervening machinery, to propel a mill for cleaning rice by the power of a steam engine; thereby giving a certain and regular motion to every part of the machinery of the mill; keeping the rice in constant motion, from the time it enters the sand-screen, until it is completely finished and taken away from the spout.

By this art and process, the rice being screened, brushed, and fanned, while it is still warm from the beating of it in the mortars, every particle of flour is detached; by which the quality of the rice is greatly improved; it receives a fine polish, and becomes of a clear transparent pearly

appearance; but if suffered to stop or rest in the process, the flour becomes fixed in the grain, renders it opaque, and gives it a dull appearance.

They claim also as their invention, the slide over the sand-screen—the sand-screen—the brushing-screen—the reversed conical case or tunnel, with its sliding shutter and moveable spout or shoe—the rotary stand and packer, with its machinery, together with the arrangement and combination of the various machinery of a rice-mill, to be driven by a steam-engine.

They describe their process as follows: The rice is first elevated or brought into a large hopper or bin, above the sand-screen, over which there is a sliding shutter, within reach of the person who attends the mill-stone, who by that means regulates the quantity to be admitted into the sand-screen, which takes out all the sand, stones, chips, pieces of iron, &c.; from that it descends through the hopper into the mill-stones which shell or hull the rice, which then passes through a wind-fan that blows the chaff outside the mill. The grain then descends by spouts into the mortars, where it is beat until the inner coat or pellicle, which confines the flour, bursts from the heat produced by the attrition of the pestles and the rice, and lets off the flour, when it is elevated to the long rolling screen, which separates the flour and the broken or small rice; this latter descends through a fan and spout into the barre . The whole, or large rice, descends through a brushing-screen; then hrough a wind-fan, into the large conical case or tunnel, whence it is delivered into the barrel.

The sand-screen.—Its use is to sift out all the sand and gravel, and prevent pieces of stone, iron, &c., from going with the rice to the mill-stones, which would cause serious injury to them. This process improves the quality of the rice, which otherwise would have a dingy appearance. The screen is a rolling screen, hung sloping, so as to give a descent to the rice. It requires to be ten or twelve feet long, and twenty inches to two feet in diameter; one half of fine wire, such as will only suffer the sand or gravel to pass through; the other half the wire, to be sufficiently large to permit the rough rice to *pass* freely through, and leave the larger substances to pass on out of the end of the screen.

The brushing-screen.—Its use is to brush and polish the rice, making it clean and bright. A conical form is best adapted to the purpose, though the form may be varied; but the principle or process of brushing or polishing the rice, is what we claim to be our invention.

The reversed conical case or tunnel, with a slide or shutter and moveable spout, from which the clean rice is delivered into the barrel, we also claim to be our invention. Its use is to hold a large quantity of rice, in order to give time to remove the barrel when full, and put the empty one in its place, and thereby prevent the fan and screens from being choked with rice.

The rotary stand and packer.—Its use is to give a regular rotary motion to the barrel when about two-thirds filled, and at the same time

to settle the rice in the barrel, by striking against its side, a large wooden mallet, or packing hammer: these we claim to be our invention.

Patented, December 16, 1823.

CULTIVATING THE MUSHROOM.

On a New Method of Cultivating the Mushroom. By Mr. WILLIAM HOGAN, *Gardener to* JAMES WARRE, *Esq.*, F. H. S.

From Vol. V. Part III, of the Transactions of the London Horticultural Society, in a letter to the Secretary.

Randall's Park, near Leatherhead, January 5, 1823.

SIR,

HAVING devised a method of *growing mushrooms* under shelter, which I have practised this season, with much success, I am instructed by my master to transmit you an account of it. I have a peculiar pleasure in complying with his directions; for it will always be very agreeable to me to communicate to the Horticultural Society of London any matter in the way of my profession, tending to promote the objects of that institution.

The exterior form of my bed resembles the old ones, as built against a wall; but, instead of building it solid, it is hollow. Strong stakes are inclined against the wall, at an angle of about sixty-five degrees, on which are placed hurdles, to support the bed. By this means a cavity is formed under the stakes for the purpose of receiving dung; which being readily changed, an opportunity is thus afforded of keeping up a permanent moist bottom heat in the bed; the absence of which, together with an insufficient depth of mould, for the spawn to run in, is the great defect of all other modes of raising mushrooms, with which I am acquainted.

Upon a structure thus contrived, I built two beds, eighteen inches thick; the uppermost four inches, of which is mould of a loamy nature, with an admixture of one quarter of road sand. The substratum was formed of dung, which had lain in the stable-yard a considerable time: this was well shaken, and laid in ridges for about a week, giving it a few turnings in the interim, by which time it became moderately dry. I then added to it one-third of mould, collected under a group of common horse-chesnut trees, where different cattle indiscriminately retreat, during the heat of summer: this lay in heaps, a few weeks previous to use. A layer of straw, or long litter, was first placed on the hurdle, to prevent the mould and short part of the dung from passing through them. In laying on this compost, I beat it with a spade, till it became solid; and then left it for a week, before it was spawned and moulded. When the mould was put on, I bestowed no other labour on that than beating it with the spade.

I did not use a covering of straw or hay; nor do I think it necessary, provided the places where the beds are built are sufficiently closed; but

in an open shed such a protection must be provided.* With respect to watering, it would be difficult to lay down fixed rules: that must depend on the judgment of the gardener: however, from the depth of mould which is used on this plan, I can confidently state, that there is no necessity of being so sparing of water as is usually recommended by writers on the subject.

The beds which I made, as above described, were spawned on the 24th of August last: they came into bearing on the 21st of the following month: and would have continued bearing up to the present time, without ceasing, and for several weeks longer, if an unfortunate accident had not occured on the night of the 28th of last month (December,) by a fracture in the ceiling of the room, which admitted the frost.

Notwithstanding this accident, however, I propose, after giving the bed a few weeks' rest, to renew the linings: and I have the most sanguine hopes that my labour will be successful: for upon close examination, I find the whole mass of dung and mould is completely full of spawn.

The place in which the beds stand is a dark room, about ten feet square, exposed to the north, and with a floor of earth. They are each about eight feet six inches long; and measure seven feet over their surfaces, from the floor to the wall.

To the produce of these beds, my master, and many gentlemen in the neighbourhood, as well as their gardeners, can bear ample testimony. The appearance of the mushrooms was singularly beautiful. In their growth, they formed an apparently powdery substance, resembling the *aphis lanigera*, in its young state; and this progressively altered, till it became more crustaceous and solid, ultimately forming large clusters, of *one hundred to two hundred mushrooms.* One of these clusters, taken as a fair sample, was exhibited to you by my master, some time back; and from it you may have formed a judgment of the general size and quality of the produce of the whole bed.

I have the honour to be, sir,

Your most obedient humble servant,

WILLIAM HOGAN.

Note by the Secretary.

The cluster of mushrooms alluded to was brought to the society's house, in Regent street, on the 6th of November last: they were unusually fine in appearance; and some, when dressed, proved excellent. The abundance of the produce, so clustered together, was certainly very unusual.

Mr. Warre, in a letter communicated after Mr. Hogan's paper was sent to the society, observed that the frost had not been so injurious to the bed as had been apprehended; for that it continued to produce mushrooms, though not in such quantities as before the accident: but this diminution of produce Mr. Warre attributed, in part, to the dung not having been changed, so that the bed was not sufficiently heated.

* Where a covering is not used, the whole crop, fit for use, may be observed at once, which is very advantageous.

Mr. Warre further mentioned, that the produce altogether had been very great; for though dressed in every way possible, besides furnishing a frequent supply to neighbours, the beds, more than once, had yielded a gathering of a bushel of mushrooms for catsup. The mushrooms were thick-fleshed, firm, and high flavoured; on their upper surface, they varied in colour from a fine brown, to white; but were invariably, of a light peach-bloom colour underneath. The clusters consisted, chiefly, of great numbers; and when they did not grow in clusters, single round mushrooms were produced.

Mr. Samuel Sawyer, gardener to Isaac Lyon Goldsmid, esq. of Camberwell, having seen the mushroom-beds formed by Mr. Hogan, and described above, has, in a communication made to the secretary of the society, and read at the meeting on the 18th of March, 1823, suggested that, instead of forming the bed upon stakes and hurdles, a sort of frame-work might be used; which, he proposes, should be constructed with bent iron rods, one inch and a half in circumference, and placed six inches apart; each end being let into bars, one to be fixed on the floor, the other against the wall; the whole forming a half-arch, the radius of which might be from two to three feet, according to the space required underneath the bed: the bed to be made over the whole surface of the iron-work, and the dung to be put in under it. The bars might be covered with woven iron lattice-work; the meshes of which should be so small, as to prevent the substances, used in making the bed, from falling into the cavity underneath, and mixing with the dung.

DISCOVERING THE ANIMALCULÆ, &c., IN FLUIDS.

New Discovery, by means of which the Animalculæ, &c., in Fluids, can be viewed with the utmost facility.

FROM THE LONDON TECHNICAL REPOSITORY.

The great difficulty of viewing the animalculæ, &c., in fluids, *under high magnifying powers*, must have been continually felt, by all the admirers of the microscope. An improvement, therefore, which effectually removes every obstacle to this investigation,—by rendering the surface of the fluid truly plane, spreading it thinner, and extending it to a much wider space around, at the same time confining the animulculæ in more limited depth, whereby their forms and movements become most readily discernable; and also preventing evaporation, from the surface of the fluid, which often dims the lens and perplexes the observer, or even puts a stop to his proceeding; as well as totally doing away the possibility of the lens dipping into the fluid, whilst adjusting its focus, as is continually happening in the present methods of viewing these objects; will, no doubt, be duly appreciated by the scientific world. It will render every one capable of extending the powers of the microscope in a much greater degree than has hitherto been done; and thereby

must cnevitably lead to the discovery of many of nature's minute secrets, which for want of such facilities have remained indefinite, or entirely concealed.

The necessity of continually adjusting the microscope, from time to time, to follow the various movements of the animalculæ, in rising to the surface, or descending into the depths of the fluid, is by this discovery rendered totally unnecessary.

The evaporation of the fluid is very greatly diminished by this invention; and, consequently, the examination of it, and of the various animalculæ, &c., contained in it, may be prolonged to a much greater period than could be effected under the usual modes of employing high magnifying powers.

These great advantages may appear to many to be quite unattainable, by any thing less than a great expense in apparatus; but, when it is said, that the only addition to that usually employed, consists *in laying upon the surface of the drop of fluid a thin slice of talc or mica*, the wonder ceases; and we can only admire that so exceedingly obvious, simple and useful a contrivance should have remained so long unemployed.

Of course, it will be understood, that the fluid should be laid upon the flat surface of a glass slip, when under examination.

The editor, by his fortunate discovery, has been enabled to view the animalculæ in water, under the power of a lens in a single microscope, of *only one-sixtieth of an inch focus*, with the utmost facility; and also, of employing the full powers of an excellent compound microscope in the same manner, the object lens nearly touching the talc.

This discovery having only been made during the course of the present month, it is quite impossible to speak of the numerous advantages which must naturally follow from the employment of so exceedingly useful a contrivance.

The substitution of a slip of talc, in place of one of the two glass slips, usually employed in viewing transparent objects, well deserves to be universally adopted. This new application of it, however, to viewing the animalculæ, &c., in fluids, will now render slips of talc an indispensable part of the microscopic apparatus: in their absence, one of the round talcs, usually to be met with, will be found highly useful on many occasions.

Instantly upon the talc touching the surface of the fluid, the capillary attraction between the talc and the slip of glass, disperses it on every side, and produces most of the beneficial results described in the beginning of this article. The others follow as matters of course.

The slip of talc should be rubbed as little as possible, in cleaning it, as it is exceedingly liable to become scratched, to lose its polish, and to be dull or discoloured; when either of these is the case, it should be exchanged for another slip. The defect, however, is of no great consequence, on account of the low price of talc, it being to be had retail, at the price of eighteen shillings the pound; and a sheet of it weighing only one ounce, is sufficient, when cut into pieces of perhaps half an

inch broad, and an inch and a half long, to make many slips, when properly subdivided, as it should be by means of a thin blade of *horn;* the employment of any harder material ought to be avoided, lest it should scratch the tale.

CIRCULATION OF LITERATURE IN SOUTH AMERICA.

THE government of Colombia, in one of their late laws, have gone beyond any other in facilitating the circulation of public papers, under the impression that it is a powerful means of promoting knowledge among the people. The following are the two principal articles of one of their late decrees:

"ARTICLE 1. Newspapers and periodical works, as well national as foreign, whatever may the number and weight, shall pay no postage in the post-offices, and in the post conveyances of the republic.

"ARTICLE 2. National pamphlets and other printed papers shall also enjoy the same exemption in the ordinary post-conveyances, provided that the entire volume of the work does not exceed four ounces in weight. If, however, the package of national printed papers exceeds the above weight, it shall pay the ordinary postage to the contractor for the conveyance."

LIGHT READING.

FOR the gratification of those of our readers, who are fond of humour and light reading, to amuse them in a moment of indolence, or *ennui*, we give the following extract from a late number of Blackwood's Magazine. It is not altogether destitute of a good moral tendency.

MISTRESSES, MASTERS, AND SERVANTS.

THE Honourable Mrs. Whirligig wanted a footman five feet eight inches high. Fixed with this lady, only two doors out of Portman-square, with four male companions in servitude, and in the society of almost twice as many damsels,—with splendid accoutrements, good *cuisine*, liberal stipend, and small beer unknown,—I made up my mind that I was settled for life. But there are circumstances, sir—I am afraid you will begin to think that I never can be contented,—but there are circumstances which may neutralize even advantages like these!

The Honourable Mrs. Whirligig had, I believe, no other fault than that of being the most unreasonable woman in the world. She was good-natured at times; but *fact* never made any impression upon her. Setting all hours and regulations at defiance herself, she was furious from morning till night at the irregularity of her dependants. If she wanted a particular tradesman at one o'clock, it was useless to say, that he

had been ordered to come at two. From the moment a new Waverly Novel was advertised, what ratings did I not receive, if it happened to be detained on the road! I don't think she once gave me a right direction all the while I lived with her; but, if I had failed to find any place, (even although there were no such place in the world,) dismission, without a character, would have been my lightest punishment.

Then the walks, and the messages, in every weather, were inconceivable. After sending me through a hail-storm from Berkley-square to the bank, she would be surprised that I was not ready to wait in the drawing-room the moment I came back. She had a quantity of gold-fish too, who seemed to have been spawned for my especial torment. There was a pump in the garden of Lady Anne Somebody, full a mile and a half off, the water of which was sovereign, she fancied, for the health of gold-fishes; and to this pump, with two great pitchers, I was compelled to walk every day. Again, as ladies' footman, it was my duty to attend the ladies of our family on all occasions; and the power even of a London footman has its limits. All the ladies of our family kept different hours of business and amusement, and all expected me to be always ready. My mistress kept me up at parties the whole night; and the young ladies, her daughters, kept me out shopping the whole day. I used to come home with my mistress at four o'clock in a summer's morning from a rout; and the young ladies, and their governess, wanted me to take their morning's walk with them at six!

"Francis!
Anon, anon, sir."

* * * * * * *

I might go on to give the details of my subsequent services with the Dowager Countess of Skin-flint, and the West India Governor Whip and Strip—with the first of whom I lived in a superb family mansion, where board-wages, of the closest character, were the order of the day; while the governor, who chose to make his servants "part of his family," having found negroes thrive well on salt fish and damaged rice, saw no reason why the same diet should not prove salutary to English domestics.

I might speak of the Miss Just-enoughs, who jobbed a carriage, and dined upon eggs and bacon; but who, nevertheless, discharged me for taking my hand once from my hat, in listening to a message much longer than a bill in chancery.

Or I might talk of the Earl of Cut-and-run, with whom luxury was even matter of command; but who turned me off, nevertheless, for refusing to hang a Newfoundland dog, when the animal would not jump a fifth time off Richmond-bridge for a wager.

I might go on, too, to relate the thousand-and-one rebuffs which I received in the course of my various applications for service. My being rejected at one house, because I was too tall—at the next because I was too short—at a third, because I was not "serious"—at a dozen, because I did not fit the last man's livery. I might comment generally upon the unfairness of masters and mistresses, who blame servants for

bad weather, non-arrival of the post, intrusion of unwelcome guests, and all other current inconveniences—who measure, in their estimate of fitting employment, the greatest quantity of work which can be done in the hour, and expect just four-and-twenty times as much to be performed in the day—who devise impossibilities with infinite thought, and expect to have them performed without any thought at all—who make up their minds, whenever any article is missing, that "the servant" must have taken it, because he is obviously the person most in need of it—who allow their domestics not even those infirmities which are inseparable from our common nature—who believe them impervious to wet, insensible to cold, and unsusceptible of fatigue—who talk ever of their mercenary feeling, their ingratitude, or their infidelity—and look for devotion, disinterestedness, and affection, in a being who only exists upon the tenure of their caprice; and who is but too well aware, that, after years of faithful service, it needs but the whim of a moment, and he has to begin the world again.

But I will not, unless in passing, complain of these afflictions. On the contrary, I will confess, in earnest of repentance—I will acknowledge my own crimes, for iniquities I have committed.

I do repent me that, while starving in the service of Miss Just-enoughs, I ate the mincemeat out of certain pies, and stuck the tops on again as before—to the manifest discredit and severe jobation of the pastry cook. I do regret that out of aversion to Mr. Twangle, the music teacher, I spilled a plate of soup into his lap one day, when he dined with the Earl of Cut-and-run. I regret that I strangled two of Mrs. Whirligig's gold-fishes, to make her think that the water, a mile and a half off, was unwholesome for them—I regret that I rubbed a hole in governor Whip and Strip's livery, because he contracted with his tailor, and returned the old clothes. I say, in sincerity, that I do repent these things; and that, spite of temptation or provocation, I will so offend no more.

NIGHT.—A SONNET.

FROM THE NEW MONTHLY MAGAZINE, MAY, 1823.

When I look forth into the face of night,
And see those silent orbs, that gem the sky—
The moon that holds her glorious path on high—
The countless host of stars of lesser light,
All moving on their destined course aright,
Through the broad ocean of infinity,
Steer'd by the hand of HIM whose glories lie
Beyond the stretch of mortal sense or sight—
When I behold all Heaven divinely bright
With this array, and downward turn mine eyes,—
My soul expands into its native might,
And loathes the burthen of that coil that lies
Like lead upon the soul, and clogs its flight
Unto its purer seat, and kindred skies.

REMARKABLE OCCURRENCES, OBITUARIES, &c.,

TO THE END OF 1823.

Chronologically recorded, and arranged under the separate heads of the different States in the Union.

MAINE.

THE most remarkable event in the history of this state, the past year, was the distressing fires in the neighborhood of Wiscasset, in September last, of which the following affecting accounts were given at the time.

"SEPT. 5, 1823.—I write a few lines, to acquaint you with a most distressing calamity, which rages in this town and vicinity. On Thursday morning a most severe gale of wind commenced at from W. to W. N. W. which continued with great violence during the day; when fires, which had been previously set in the woods, spread in many directions towards this place, consuming every thing of a combustible nature in their course. At from 4 to 10 o'clock, P. M. this village wore a gloomy aspect. The fires within a mile of us in various directions, and smoke so thick as almost to suffocate those who went to try to stop their progress. By the merciful interposition of a kind Providence, the wind abated, and the alarm, (in a great measure,) for the safety of the village, ceased. Almost all our citizens have been engaged the two last days in helping their distressed neighbors Should the present dry weather continue, and other heavy winds be experienced, we have further calamities to fear.

"Last night we had returns of between 70 and 80 buildings, of various descriptions, burnt; most of which were on what we call the back and front roads from this town to Alna, and the old and new roads from this to Dresden; belonging principally to Wiscasset and Alna; one saw-mill and tannery are included in the number; the rest are houses and barns belonging to poor industrious farmers, who have now lost their all. One person, a female, has perished. I have not time to give you a list of the sufferers."

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On the following day, the Reverend Dr. Packard wrote additional particulars, which deserve preservation, as a memorial that may hereafter be useful.

"WISCASSET, SEPT. 6, 1823

"Dear sir: I write you with a trembling hand and a heavy heart; for I have taken an active part in scenes the most distressing of the kind I have ever witnessed. Within 36 hours, more than ninety buildings, in the outer part of this town and Alna, have been destroyed by fire. The wildness and fury of the element have been such as, in many instances, to consume houses, barns, oxen, cows, sheep and hogs, without giving their owners time to afford them protection, or to rescue from the flames any of their effects. Many men, women and children, after vainly attempting to arrest the progress of the destroyer, escaped for their lives, without saving any thing but the light and mean apparel that covered them. The amount of losses sustained cannot at present be estimated, nor can an estimate be completed before the fire is wholly subdued. Numbers of our citizens are watching its course. The sufferings of many families and some whole neighbourhoods are really beyond description. I have this day seen the aged and infirm weeping over the ruins of the dwellings, which the economy, industry, and labour of many years, had at length erected for their comfort. Our forests and fields, my friend, exhibit the darkened aspect of a dreary waste. As soon as practicable, a committee of respectable citizens will probably ascertain and publish a particular account of the extensive and awful calamity, and send out a circular to solicit aid. Wiscasset, in the days of its prosperity, was frequently generous to sufferers in other parts of our country, and it is hoped that now, in our distress, we shall experience the sympathy and beneficence of a generous public.

"I am, dear sir, your affectionate and anxious friend,

"HEZEKIAH PACKARD.

"ALDEN BRADFORD, esq."

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DIED, at Portland, November 17, very suddenly, hon. GEORGE BRADBURY, aged 54, formerly a representative from that district in the Congress of the United States, and more recently a member of

the senate of the state of Maine—an intelligent, respectable, and truly amiable man.

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NEW-HAMPSHIRE.

DIED, at Amherst, the 30th July, 1823, the Rev. ZEPHANIAH SWIFT MOORE, President of the Collegiate Institution in that town.

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In Hamilton, the Rev. MANASSEH CUTLER, LL. D. aged 81, a distinguished divine and scholar He had been in the ministry at Hamilton more than fifty years

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In Concord, Lieut. ROBERT DAVIS, aged 89 years and 7 months. He came to this town in 1774, when it was but a wilderness, and surrounded by savages. For many years he endured great hardships and privations, to which the present generation are strangers. He was a man of a strong constitution, and by his perseverance did much towards turning the wilderness into a fruitful field, and preparing the way for those civil and religious liberties which we now enjoy. He has left a wife aged 86, with whom he has lived 67 years. He was a pattern of industry, temperance, and health, and until within about a year, was able to labor regularly in the field. Through life he was the firm supporter of the liberties of his country, honest in all his dealings, and regular in his devotions to his God.

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MASSACHUSETTS.

DIED, in Quincy, PETER BOYLSTON ADAMS, esq., aged 85, brother of the late President of the United States.

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In South Reading, col. AMOS BOARDMAN, aged 68—a patriot of the revolution.

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In Worcester, Mr. BENJAMIN WHITNEY, aged 98, the oldest male inhabitant of the town.

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At Shrewsbury, col. ASA RICE, a patriot of the revolution, aged 82.

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In Wrentham, the Rev. WILLIAM WILLIAMS, A. M. Pastor of the Baptist Church in that town, at an advanced age, a native of Pennsylvania. Mr. Williams was one of the two surviving members of the first class of Brown university, who graduated at Warren in the year 1769; the other being Rev. Dr. Rogers, now on a visit to his native state.

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At Belcherton, maj. ELIHU LYMAN, aged 81. Major Lyman was an officer in the army of the revolution. He was one of those who were detached, under the command of col. Arnold, and sent from Cambridge to Quebec, by the way of Kennebec river. It fell to his lot to return with the sick, and he among the rest endured hardships and privations, from toil and hunger, almost incredible. Through a long life, major Lyman supported the character of an honest, upright, and worthy man.

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In Billerica, September 5, the Rev. H. CUMMINGS, D. D., in the 84th year of his age, and 61st year from the time of his ordination. He had been the longest in the ministry of any clergymen living in the commonwealth of Massachusetts. Dr. Cummings was a native of Hollis, in New-Hampshire, where he was born September 28, 1739. He graduated at Hartford college in 1760, being the third person who received a liberal education. He was ordained the fourth minister of Billerica, Jan 26th, 1763, in which office he remained alone and discharged to universal acceptance his ministerial duties for sixty years.

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BOSTON, *Oct.* 24.—We understand that the late John McLean, esq., by his last will, has made some most liberal bequests to several public objects, which will cause his memory to be long cherished with affection and gratitude The Massachusetts General Hospital is made the residuary legatee, after certain specific legacies, which it is believed will leave a surplus of more than *a hundred thousand dollars*, of which the hospital will come in possession immediately on the settlement of the estate. Besides this most liberal bequest, the sum of fifty thousand dollars is given, one-half to the hospital, and the other half to the Harvard University, on the decease of the individual for whose use it was given in trust for life.

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RHODE-ISLAND.

DIED, in Newport, in Nov. capt. J. TREVETT, aged 76 years—a revolutionary patriot. Previous to the revolution he

was a nautical commander, and at the commencement of the war he entered the service of his country. In November, 1775, he entered on board the ship Columbia, as a midshipman, and was speedily promoted to a lieutenancy, in which station he served under com. Hopkins, and in 1776, was attached to the brig Andre Doria, captain Biddle, from which he was transferred as commander of marines, to the ship Providence, capt Hacker, in which command, with thirty marines, he landed at New-Providence, and by stratagems captured the forts, and kept them three days, when, their object being accomplished, they left it, taking the public property, and several prizes. Soon after, being on a cruise near Halifax, they took several prizes, and got them into port. One of them was a ship, bound to Quebec, with 10,000 suits of soldiers' clothing for gen. Burgoyne's army; being so important a prize, she was entrusted to Mr. Trevett, who brought her safe into port, and the clothing was immediately sent to gen. Washington's army In 1780, he joined the frigate Trumbull, com. Nicholson, and during the cruise had an action with the ship Walter, of 36 guns, in which the Trumbull had 43 killed and wounded, and Mr. T. lost his right eye, and received a ball in his foot. He then entered on board the ship Dean, captain Henman, and took a number of prizes, in one of which he was retaken, and carried to St. John's, where he remained a prisoner for upwards of two years.

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CONNECTICUT.

YALE COLLEGE.—The reputation and the prosperity of this noble and venerable institution, ought to be dear to every inhabitant of the city, which enjoys not only the advantages of its location, but an enviable association with its high and honorable character. Standing only upon its own merits, without the aid of public appropriations, or the large funds with which many similar institutions in our country are endowed, this college still continues to advance in the march of improvement, and now stands unequalled in science, in discipline, and in numbers. The catalogue for the present year presents the following summary: seniors, 75; juniors, 89; sophomores, 123; freshmen, 87; medical students, 71; resident graduates, 28;—total, 473. The college buildings are, as yet, inadequate to the accommodation of all the students, tho' it is but a short period since a new college was built, and we learn with pleasure that the corporation has resolved to build a new chapel in the ensuing summer, which is to occupy the space between the two northern buildings.

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In November last, the ship Henry arrived at New-Haven, from the Pacific, with 2000 barrels of sperm and whale oil. She was fitted out by several enterprising citizens, as the first effort to introduce this important branch of commerce to New-Haven, and is manned principally by young men of that city. After a tedious voyage of two years and eleven months, they have all returned in health.

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The hon. ELIJAH BOARDMAN, a senator of the United States from the state of Connecticut, died in August last, in the state of Ohio, whither he had gone on business.

The simplicity of his character accorded well with the republicanism of his principles. He was a genuine patriot of the good old stamp, and had by a steady and firm devotion to the interests of his country, in the most trying times, well earned the honor which his native state bestowed upon him. With integrity and stability, in him were combined the purest morals and the most amiable manners. In a single word, he was worthy of the name of a republican, in its best acceptation.

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In Hartford, on the 1st of August, Mr. BARZILLAI HUDSON, aged 82—for 36 years senior proprietor of the Connecticut Courant. In respectful remembrance of the deceased we would say, that as a friend, he was ever sincere and constant, and as a partner in business, his integrity was undeviating and inflexible. His exemplary life procured him the respect of his fellow-citizens; his constant piety supported him in the sufferings of his last illness, and death has, we trust, removed him to a better world.

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At Farmington, the honorable JOHN TREADWELL, in the 78th year of his age. This gentleman has closed, at a good old age, a life of virtue and excellence not often surpassed. He was for many years a member of the council, and afterwards lieutenant-governor and governor of the state of Connecticut.

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JUDGE SWIFT.—This eminent jurist

and beloved citizen of this state, died at Warren, Ohio, on the 27th of September, aged 64.

He was graduated at Yale College in 1778 Among his classmates were Joel Barlow, Stephen Jacob, Josiah Meigs, Asher Miller, Ebenezer Sage, Asa Spalding, Uriah Tracy, Noah Webster, Alexander Wolcott, Oliver Wolcott; yet among these he was a distinguished scholar, and high hopes were entertained of his honorable and useful progress through life.

After a course of successful practice as a lawyer, he served this state in Congress and in Council; was secretary to Messrs. Ellsworth, Davie, and Murray, in their mission to France in 1800; soon after his return was placed on the bench of the Superior Court, where he continued 18 years, during the last five years of which he was chief-justice.

After the expiration of this term, he was employed by the General Assembly, in connexion with secretary Day and judge Whitman, to prepare a revised code of statute laws, which service was very acceptably performed, and the state will long enjoy the benefits of his labors

The four last years of judge Swift's life were mostly employed in preparing a digest of the laws of Connecticut, the first volume of which, an octavo of 800 pages, was published in May, 1822, and the second may be expected from the press very shortly. They will transmit a memorial of his useful talents to posterity.

In all the offices of life he will be recognized as eminently diligent and ingenious, able and inflexibly just. No other individual has done as much towards reducing the laws to an intelligible system, adapted to our habits and condition.

To his family and friends it must be consoling that they do not mourn alone, and that his life was such as to cause his death to be deeply and extensively regretted. And to this we may add, that during the few days of his sickness, and especially after his case had been pronounced desperate, his mind was unclouded and serene, all his temporal affairs having been fully adjusted in preparation for such an event, and with calmness and without a struggle he closed the scene.

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On the 13th December, in the state of Connecticut, the honorable TAPPING REEVE, formerly chief justice of that state, aged 79. The biography (says the Litchfield Eagle) of a man so distinguished as a jurist, as a judge, and so eminent in every respect in his profession, will undoubtedly, be written by some able pen.

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NEW-YORK.

New-York, *Oct.* 9.—The first anniversary of the junction of the waters of the western lakes with those of the Hudson, by means of the Erie canal, was commemorated in this city, in a style of splendor and glow of feeling not surpassed, it is presumed, in the capital of the state. At 3 o'clock, a party of about 150 gentlemen sat down to a sumptuous entertainment provided for the occasion, by Mr. Sykes, at the New-York Coffee-house. The hall was tastefully decorated with emblematic devices, and the dinner, consisting of three courses, contained all the varieties afforded by our own and foreign climes. In the first was a *baron* of beef measuring nearly four feet in length, and weighing 112 pounds. It was placed upon a marble slab and surmounted with a white silk flag, bearing the arms of the state, and painted for the occasion. Gallipagos turtle, and game of every description in season, swelled the list of luxuries and dainties. The centre group on the plateau being removed, a richly decorated pie was placed in its stead. Upon the lid being removed, a pair of white carrier-pigeons flew out and over the hall, bearing intelligence from Albany that the meeting of the waters had taken place.

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The following praise is liberally bestowed, in an English journal, on the spirit and enterprize of the people of New-York, and the profound political sagacity, under whose impulse the Great Canal has been constructed. These are the fruits of free institutions, beneficial to those who enjoy them, and applauded by those who do not:

From the London British Traveller.

This great work [the great New-York canal] which was begun in 1817, and will be completed next year, is the longest canal in existence, and though upon a small scale, as to breadth and depth, is, we believe, in point of pecuniary outlay, the greatest work of the kind ever executed. It is 353 miles in length, 40 feet wide at the surface of the water, 28 at the bottom, and 4 feet deep, and will cost

about five millions of dollars, (1,100,000 pounds,) or 3,000 pounds per mile on an average. Such a vast undertaking, completed in the short period of seven years, by a state with 1,368,000 inhabitants, affords a striking proof of the energy and enterprize generated by free institutions. It is a work worth a thousand Escurials and Versailles, because it creates wealth, while these only consume it, and it is a monument of public spirit and national prosperity, while these are only monuments of idle magnificence, vain glory, and despotic oppression.—When shall we see the inhabitants of a small province of any of the torpid and priest-ridden monarchies of continental Europe execute such a work by their own spontaneous act, and with their unasisted resources?

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At New-York, in October last, Mrs. CHARLOTTE MELMOTH, aged seventy-two years Mrs. Melmoth was a veteran in the corps dramatique, and was attached to the earliest American theatre. She was by birth an English woman, and her talent, particularly in the higher walks of tragedy, was very generally acknowledged. She was much esteemed for her excellent private character, and since her retirement from the stage, she taught school, and was peculiarly successful in advancing her female pupils in reading and elocution Her death, although at an advanced age, is much regretted by her friends.

"Out, out brief candle—
Man is but a walking shadow, a poor player,
That struts and frets his hour upon the stage,
And then is heard no more."—*Shak.*

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At Stillwater, on the 30th September, JOHN THOMPSON, esq. at an advanced age. The deceased was amongst the first settlers in the county in which he lived. He had for several years held the office of a judge in the county courts, and likewise, served as a representative in Congress, in which situation he shewed himself a steady and unwavering supporter of republican principles.

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At his residence, Newtown, (L. I.) col. JESSE HOLLY, aged 70 years. He was one of those patriots during our revolutionary struggle, that was termed minutemen, in Westchester county, who it is well known suffered every privation, to protect the inhabitants from the depredations of the enemy.

At West-Point, on the 15th December, Doctor JAMES CUTBUSH, professor of chemistry in the Military Academy. A man not only known for his extensive knowledge of chemistry, but distinguished for his philanthropy and patriotism.

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NEW-JERSEY.

In the vicinity of Trenton, on the 13th September, colonel LAMBERT CADWALLADER, one of our most aged and respectable citizens. He commanded a regiment early in the revolutionary contest, and was one of the representatives in Congress from Pennsylvania, on the organization of the present national government.

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On September 8, at his residence in Bordentown, general HENRY LALLEMAND, one of the illustrious emigrants from France.

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On the 10th of November, at his residence, near Shrewsbury, Monmouth co., JAMES MOTT, esq., in his 85th year. He was for many years treasurer of the state, and subsequently a representative in Congress.

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At his residence in the city of Burlington, general JOSEPH BLOOMFIELD, late a representative in Congress from that state. He was a worthy soldier of the revolution; afterwards governor of the state for several years; and during the late war, a brigadier-general of the army of the United States—an excellent man, a firm republican, a sound legislator, and a brave soldier.

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At his seat in Burlington county, THOMAS NEWBOLD, esq., formerly a representative in Congress, and since, a member of the house of representatives of New-Jersey. He was apparently in good health, and with a prospect of many years of comfort to himself, and of usefulness to the community; but he had a stroke of apoplexy, which terminated his life.

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PENNSYLVANIA.

Died, suddenly, at Philadelphia, on July 22d, by a rupture of a blood vessel, Mr. WILLIAM BARTRAM, senior, in the 85th year of his age. By his death,

science has lost one of her brightest ornaments.

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At Philadelphia, on Wednesday evening, 17th September, after a severe attack of dysentery, commodore JOHN SHAW, of the United States' navy, aged 50.

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On the 2d August, at his residence in Lawrenceville, the Rev. DAVID RATHBONE, A. M., in the 61st year of his age, and the forty-first of his ministry.

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On the 12th of August, after a short, but severe indisposition, at his residence on the Frankford Turnpike road, JACOB G. TRYON, esq., high sheriff of the city and county of Philadelphia.

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In the borough of Reading, on August 14, after a short illness, THOMAS OAKS, esq., principal engineer in the service of the Schuylkill Navigation Company. He was a native of England, the son of John and Sarah Oaks, who resided at Ellastone Mills, near Uttoxeter, in Straffordshire. He was born on the 13th August, A. D. 1777. Under the celebrated Keith, who has written so extensively on trigonometry and the globes, he received a thorough education in mathematics and philosophy. Possessing a strong, clear, and inquisitive mind, he pursued those and all collateral studies to a great extent, together with a practicable application of those parts that are most useful in the general concerns of life. In mechanics and hydraulics, he has left few equals. In 1801 he emigrated to these United States, and settled soon after at Bloomfield, New-Jersey. His science and mechanical skill soon commanded extensive and profitable business in that state and different parts of the union, but especially in the state of New-York. When the "Schuylkill Navigation Company" were about to commence their extensive and highly important operations, an engineer of the first talents and experience was indispensable. Such an one, Mr. Oaks was reported to be, and such an one they found him. In the spring of 1819 he commenced his laborious and difficult employment, which he continued almost uninterruptedly to the universal satisfaction of all concerned, until the 7th instant, when, after a ride up the line of canal towards Hamburg, he took bed, and notwithstanding the most faithful and skilful medical attendance, continued to sink rapidly until the morning of the 14th; then, nature being exhausted, he yielded up his spirit to Him who gave it. He died on his birth day, aged 46 years.

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At Greensburg, of dropsy in the chest, the 21st of September, FREDERICK ROHRER, esq. of that place, in the 82d year of his age. He was a native of France, and was born on the 28th of July, 1742. He came to America during the war between France and Britain. He married Catharine Deemer, in 1766, in York county, and shortly after removed to Hagerstown. In that year he first visited the western country, as far as Pittsburg, then composed of a few Indian huts. He brought a number of cattle with him, which he exchanged to general St. Clair for a tract of land in Ligonier valley. He still left his family at Hagerstown, and in 1767, brought the first wheat over the mountains ever imported into the western country. He cultivated it, together with other grain, on his farm in the valley, and prepared for his family, whom he removed there in the following fall. He took out a warrant for all that tract of land on the Connemaugh river, on which the salt is now made, and was the first to discover those immense springs of salt water. He boiled the first salt in an earthen pot, and traded it to the Indians, then the only inhabitants of Westmoreland county. In 1771, he returned with his family to Hagerstown, being unable to live any longer amongst the Indians. In 1793 he removed to Greensburg, from Hagerstown, where he remained until the time of his death. Some time after his removal there, he was appointed a justice of the peace by governor M'Kean, and officiated until within a few years. On the 23d he was interred in the German burying ground, attended by an unusually large concourse of citizens, who, together with his friends, have to mourn the loss of a most valuable friend and citizen. He had 9 children, 42 grand-children, and 17 great-grand-children.

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At his residence in Adams county, after a lingering illness, ANDREW SHRIVER, esq., in the 75th year of his age, respected and regretted by all who knew him. The plantation on which he died was the place of his birth and uniform residence, as well as that of his parents, from the time of their acquiring it by pre-emption, about a century ago, at which time their settlement was among the aborigines, who had still retained the occupancy of the country, and were long in a state of deadly warfare with the Delaware Indi-

ans. Mr. Shriver through life supported the character of a worthy, upright man, and for several years represented his fellow citizens in the legislature of Pennsylvania. He has left a respectable family to cherish his memory and emulate his virtues, for whose comfortable support he has made suitable provision.

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At Philadelphia, Mr. JOSEPH HARVEY, a patriot of the revolutionary war, in the 80th year of his age. He fought in many of the engagements during our struggle for liberty and independence, and suffered severely for a considerable length of time on board one of the prison ships of the enemy.

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At Reading, on the 3d of October, of the prevailing fever, HENRY KING, engineer to the Scuylkill navigation company, successor to the late Mr. Thomas Oaks.

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After a short illness, Mr. JOSEPH ROGERS, in the 72d year of his age, for many years a respectable inhabitant of the Northern Liberties, Philadelphia. The deceased, for several years, held the situation of judge and justice in the state of New-Jersey, and at the time of his death was a justice of the peace for the county of Philadelphia. In all the relations of private life, he was extremely exemplary. He was a kind, indulgent, and affectionate husband and parent, remarkably benevolent and charitable; and no man could be more generally esteemed and respected by a large circle of friends and acquaintances and particularly by his immediate neighbors. He lived long enough to see a numerous offspring grow up to maturity, all of whom have reflected credit, rather than discredit, on his grey hairs This, he often remarked, was a most consoling reflection to him in his old days [He was the father of general THOMAS J. ROGERS, a representative in congress from the state of Pennsylvania.]

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MARYLAND.

DIED, at his residence in Montgomery county, col. GEORGE MAGRUDER, in the 57th year of his age. Col. Magruder was ill only 24 hours, having, during his whole life, enjoyed a robust health. He was formerly, for many years, a resident of Georgetown, D. C., and commander of one of our regiments of militia. He was, at the time of his death, one of the judges of the Orphan's court of his native county, and enjoyed general esteem. He has left two daughters to lament his death.

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On the 23d of Sept., at the age of 84 years, Dr. WILLIAM STEWART, for many years health officer at Baltimore, and late a surgeon in the army of the United States.

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RICHARD SNOWDEN, esq., of Prince George's county, Maryland, in the 47th year of his age. Mr. CHARLES A. SNOWDEN, second son of the former, aged 18 years. Seldom has it been the province of obituary to record the decease of more moral and intellectual worth than were concentrated in this most amiable and promising young man. During a vacation, he had left Dickinson, on a visit to the paternal mansion, where, after a few days indisposition, a termination was put to the bright prospects that just began to dawn upon him. No youth of his age had acquired a more perfect knowledge of what are termed the learned languages, than himself; none ever possessed more suavity of manners, or manliness of character. Soon would he have terminated his collegiate course, and have been prepared to act a conspicuous part in the great drama of life, where qualities and acquirements like his must have conferred distinction. Such were the well grounded expectations of his friends, and such the loss society has sustained.

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At his residence, in St. Mary's county, WALTER MOORE JONES, in the 24th year of his age, a son of Benjamin Jones, esq., merchant of Philadelphia, after a severe illness of nine days, leaving a wife and three children. In the death of this estimable young man, his wife has to deplore the loss of an affectionate husband, his children that of a fond parent, and society the loss of one of its brightest ornaments. The deceased has been but a short time a resident of this county, having removed here for the purpose of settling on an estate purchased by his father, during which time, his deportment has been such, as to endear him to an extensive circle of acquaintance and to the public generally. Never has the death of any individual in this district of country created a more universal sympathetic feeling of regret. He had, but a few days previous to his indisposition, yielded to the solicitations of his friends in making his debut upon the field of political contro-

versy, as a candidate to represent this county in the legislature, with the most flattering prospects of success, but, alas! his progress in the full tide of earthly prosperity has been arrested by the mandate of the Most High, and summoned to the judgment seat of the Almighty, where, we trust, he will bear the scrutiny of an all-wise and merciful Judge; for it may in truth be said he lived and died in peace with his fellow-men, and that his loss to the public is deeply lamented, and to his distressed family irreparable.

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At Baltimore, on the 4th of September, the Rev. JOHN HAGERTY, in the 77th year of his age, who has been a minister in the Methodist Episcopal church nearly half a century.

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In the neighborhood of Bladensburg, Prince George's co., ANDREW HAMILTON, esq., in the 70th year of his age, leaving an afflicted and mournful wife, whose age is now more than three score years and ten, as well as an only son, to lament the loss of a kind and beloved companion and father.

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On the morning of the 21st of August, at his residence in Montgomery county, Mr. ELIJAH VEIRS, in the 64th year of his age. He expired in the arms of a friend, surrounded by his children. The deceased was a christian, and a strictly honest man. His virtues rendered him a citizen of high respectability, and his talents a most useful member of society.

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Near Piscataway, Prince George's co., Mr. GEORGE SPALDING, in the 25th year of his age. In the premature death of this young man society has lost an industrious and enterprising member; his numerous relatives and friends a kind and affectionate companion.

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DISTRICT OF COLUMBIA.

CITY OF WASHINGTON.

DIED, August 3, after a protracted and distressing illness, which she bore with the greatest patience, Mrs. ANN CUTBUSH, aged 54 years, consort of Dr. Edward Cutbush, of the United States' navy. For all the virtues which adorn the female character—for sincere piety, simplicity of manners, benevolence and affection, and the fulfilment of domestic duties, the deceased had no superior in the circle of her acquaintance; by that circle she was sincerely esteemed, and her death is unfeignedly lamented.

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Near the Navy-Yard, October 12, after a short illness, WILLIAM PROUT, esq., one of the oldest inhabitants of this city.

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September 23d, Miss CHARLOTTE G. FROST, daughter of John T. Frost, esq., one of the clerks of the house of Representatives. A long acquaintance with her merits enables the writer of this to pronounce her to have been one of the most faultless beings he has ever known. Endowed with all those qualities which add dignity and usefulness to the graces of the female character, she was a model of excellence in every walk of life.

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October 11, Mrs. ANN FROST, consort of Mr. John E. Frost. In the bloom and innocence of youth, and the freshness of beauty, she has been snatched from her affectionate friends. Her complaint was a rapid decline, which suddenly terminated her life, of which, until her recent indisposition, no one seemed to have a fairer or a happier promise.

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On the 18th of October, Mrs. ELIZABETH EMMA ELLIOT, aged 28 years, wife of Mr. WILLIAM ELLIOT, of this city, and eldest daughter of the Rev. ROBERT LITTLE. With a mind strong and cultivated, and a temper amiable and affectionate, her death is lamented by all who knew her; but it inflicts a blow on her husband and parents which none can appreciate but those who have suffered a similar bereavement.

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In this city, in October, last, GEORGE WADSWORTH, esq., of the Comptroller's Office, in the 45th year of his age. This very respectable gentleman has left a most distressed family, of a wife and seven children, to lament his death, which to them is absolutely irreparable.

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December 4, ELIJAH R. CRAVEN, A. M. and M. D., professor of botany in the Columbian College, in this district. In his decease, society is bereft of a useful member—learning, of an accomplished proficient—his profession, of one of its brightest ornaments—the infant seminary, with which he was connected, of a valuable professor: and his aged parents, his companion, and relatives, have sus-

tained a loss which time can never repair. Could all the virtues which adorn the most improved state of humanity, escape the shaft of death, he had still lived.

THE distressing mortality which so seriously afflicted our naval squadron in the Gulf of Mexico last fall, and occasioned the loss of so many valuable citizens and officers in that department, seems to have been the cause of the following official notice published by the government—which we shall here record.

List of United States' Naval Officers who have died since 1st of January, 1823.

NAMES.	RANK.	WHERE.
John H. Dent,	captain,	Charleston, S. C.
John Shaw,	do.	Philadelphia
Wm. H. Watson,	lieut.,	Thompson's is'd
Wm. H. Cocke,	do.	West Indies
John M. Maury,	do.	ship Decoy
Richard Dashiell,	do.	coast of Africa
G. W. Hamersley,	do.	Thompson's is'd
Nat'l Carter, jr.,	do.	do. do.
Wm. H Mott,	do.	New-York
R'd M Potter,	do.	Thompson's is'd
R'd C. Edgar,	surg'n,	do. do.
John Dix,	do.	coast of Africa
M. C. Atwood,	purser,	do.
Ben'n F. Bourne,	do	New-York
And'w Hunter,	chap'n,	Washington, D C
David P. Adams,	do.	Thompson's is'd
John Ireland,	do.	New-York
G W Somerville,	mid'n,	Thompson's is'd
Art'r Bainbridge,	do	do. do.
G. W. Simms,	do.	do. do.
Robert Steed,	do.	do. do.
Robert Taylor,	do.	do. do.
Samuel Marshall,	do.	do. do.
Miles King,	do.	do. do.
R. M. Benbridge,	do.	do. do.
W. M. Rittenhouse,	do.	do. do.
John Reed, jun.,	do.	do. do.
Benjamin Follett,	do.	do. do.
Edw'd Barneweil,	do.	sch'r Porpoise
James A. Kirk,	do.	coast of Africa
James P. M'Call,	do.	Norfolk
Joseph G. Smith,	do.	ship Decoy
Rolla Weems,	do.	Norfolk
Henry Dyson,	do.	brig Spark
John Drew,	sai'g mas.	Boston
Ed'd Rumney,	do.	drowned
Samuel Rinker,	do	Philadelphia
W L. Reynolds,	boatsw'n	coast of Africa
W Cunningham,	gunner,	do.
Sam'l Morrison,	do.	Thompson's is'd
Anthony Grice,	carpen'r,	do. do.
David Navarro,	sai'l ma'r	do. do.
Alf'd Grayson,	cpt mar's,	ship Decoy
Geo. Cooper,	lieu't	do. Boston
S. M Rogers,	do.	do. Thompson's is'd
Henry Gilliam,	do.	do. do. do.

December 1, the baron FREDERICK GREUHM, minister from the Prussian government to the United States.

He was eminent at home no less for his attainments than his merit, and had pursued the diplomatic career with great consideration and success, for three and twenty years. It would be unseasonable to recount the services by which he had recommended himself to the favour of his sovereign; but it may be interesting to the American public to learn, that, on a mission, some years since, to London, he exerted himself with an admirable zeal in promoting contributions for the relief of the soldiers wounded in the late disastrous wars, and that he has, through life, and often in this country, given proofs of a most compassionate temper, and a spirit really munificent. So full was the confidence reposed in his abilities, that he was appointed to serve in Spain during the critical and difficult conjuncture of the last half year. But he esteemed himself most happy in getting his destination changed to the United States, where he had already resided as minister for two years, and now returned, after a lapse of two years more, to die! During that residence he had endeared himself to a large circle of acquaintances, as well private as official; for few failed to conceive at once a high esteem for him, and to feel a secret charm in his manners, which displayed the truest simplicity and frankness even while he was discharging the duties of a courtier. He leaves an afflicted widow in a foreign land, with few consolations besides those she derives from the sympathies of the community. He had reached the age of fifty-three, and fell a victim to three successive fits of apoplexy originating in a constitutional complaint.

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COLUMBIAN INSTITUTE,
December 27, 1823.

At an annual meeting, held this day, the following officers were elected for the year 1824:

President, JOHN QUINCY ADAMS,
Vice-President, EDWARD CUTBUSH,
Secretary, ASBURY DICKINS,
Treasurer, WILLIAM LAMBERT.
Counsellors.—William Elliot, H. Huntt, Alexander M'Williams, William Thornton, and Bailey Washington

A. DICKINS, *Sec'y*.

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GEORGETOWN.

DIED, on the 21st of October, at his residence in Georgetown, in the 36th year

of his life, AUGUSTUS TANEY, esq. The writer of this article knew Mr. Taney well, and esteemed him much A strong and discriminating understanding—an excellent and solid judgment, and, for his age, a considerable stock of useful and varied knowledge, were the leading treats of his mind His heart was the residence of the most manly virtues. It was warm and benevolent—it was frank and sincere. His friendships were firm and fervid; his principles were the principles of a Christian, and his practice was in conformity with them.

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ALEXANDRIA.

On the 2d of August, in the 32d year of her age, Mrs. SARAH FAIRFAX NORRIS, the amiable wife of the reverend Oliver Norris, of Alexandria. The important obligations of child, parent, and wife, were faithfully discharged by Mrs. Norris; in addition to which earthly consideration, was added the most uniform attention to her religious duties.

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VIRGINIA.

In the beginning of August the penitentiary at Richmond was burned down. We have given the account of this calamity as it was transmitted at the time; and are happy to hear that by the energetic exertions of the citizens, the mischief is now retrieved, and the building restored.

"The fire took place in the eastern wing of the central building—as is believed by most of those who were in the interior, in a shoemaker's shop. The sentinel who had remained outside of the eastern side of the building, from ten o'clock, most probably gave the first alarm. The alarm rapidly spread through the interior—one of the turnkeys says, when he was awakened, the fire had broken out on the roof of the central building, and was no larger than his hat. The first object of the officers was to seize the keys, and open the sleeping rooms of the convicts, who rushed in the inner yard. The smoke, however, was suffocating—and the danger imminent; and there were two or three of the solitary cells not unlocked. The public guard rushed to the spot, and when the gate was opened, received the convicts, who made not the slightest effort to effect their escape. When the great body of citizens, and the fire engines, had reached the spot, it was too late to save the house; for the fire had rapidly spread to both its wings by means of the unfortunate central building. The first inquiry of every one was, "where are the convicts? are they safe?" They were just outside of the gate, but as they had not been counted, no one could ascertain how many were missing. The fate of the absentees gave rise to the most painful anxiety. It was soon buzzed about, that a great many were yet in the building—that shrieks and groans, and cries for assistance had been heard—and that this was a horrible doom to await even the most abandoned of men.

Pity was the predominant feeling—and means were taken, by inquiring of those who knew of their location, and by shouting at the windows of the cells, to ascertain where they were. Four only were found. Generous and energetic citizens promptly stept forward to relieve them. The greatest effort was necessary at a window in the second story, which could only be approached by a shed—several mounted the shed, and after encountering great fatigue and some danger from the flaming pieces of the wooden cornice which dropt around them, they finally succeeded in loosening the iron grating of the window, and dragged out a man of color, whose prayers had been pathetically addressed to Heaven for his safety. Another party mounted a ladder, and saved out of a room in the east angle another fellow creature; the bricks being cut out of the upper part of the window. A third was drawn out of a hole in the wall, which now seems scarce big enough to have let a weazle pass through. The last man was taken out of a room on the western side of the building—when the upper part of the whole edifice was on fire. Indeed, if the rooms had not been arched with brick, the lives of these men could scarcely have been saved. Not a life was lost! Not an accident occurred during the awful scene The heat must have been oppressive, if moral causes had not been too strong to permit the bye-standers to feel all its effects.

Mystery still hangs over the cause of the fire—whether it was produced by accident or design—and if by design, whose was the hand that laid the mischief.

The loss to the commonwealth is severe. The house cost at least $ 150,000—and the goods and raw materials were probably worth 30 or 40,000 dollars.

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Died, at Dumfries, on the 6th August,

JOHN LAWSON, esq., aged 69 years. The deceased was a native of Scotland, and emigrated to Virginia a short time prior to the revolution. During the whole of that arduous contest, he was found foremost in the ranks of liberty, a friend of the rights of man, and of his newly adopted country. He filled several offices of distinction in Virginia, the duties of which he discharged with propriety and fidelity. Throughout his whole life he enjoyed the public confidence and esteem, and no person, it is believed, had warmer friends and fewer enemies. Possessing a mind highly cultivated, manners mild and conciliating, and a heart overflowing with kindness and good will towards his fellow creatures; he will leave a breach in the circle of his friends long to be felt and deplored, and by none more than the writer of this. He has left behind him a truly amiable wife, and children, whom, however, he had lived long enough to see brought forward with a prospect of their maintaining the integrity and respectability which he has left them in his example. C.

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On Thursday, the 7th August, at his residence in Madison county, the rev. HENRY FRY, in the 85th year of his age, a gentlemen of great respectability and most piously religious habits, pursuing with great zeal the profession to which he was called.

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On the 19th September, at his seat in the county of Botetourt, col. MATHEW HARVEY. The deceased was a native of the state of Maryland. After the battle of Brandywine, he became a soldier in the army of the United States, in which situation he continued until the peace. He was attached to Lee's legion, and served with reputation in that distinguished corps during the whole of the southern war. On the return of peace he migrated from the place of his nativity, and settled in Virginia. From this period his life was employed in a course of useful and successful industry. In private life, he was as remarkable for prudence and good sense as he had formerly been for courage in the field.

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At his seat in Chesterfield county, in September last, JOHN W. EPPES, esq., aged about 50 years. Mr. E. has been long afflicted with indisposition, which withdrew him from public life. In the embargo and war times, he was a distinguished and leading member of the house of Representatives of the United States, and more recently he represented the state in the Senate of the United States. "He was respected by the people, and beloved in all the walks of private life."

His first wife was the daughter of the venerable JEFFERSON. His second wife, who survives him, is the daughter of the late Willie Jones, of North-Carolina; and several children, with her, lament the loss of their natural protector.

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October 3d, ROBERT BROUGH, esq., one of the oldest as well as the most eminent and respectable citizens of Norfolk. Mr. Brough has filled several conspicuous public stations in that community. He was formerly a delegate for Norfolk co., and for many years an active and useful magistrate of the same; and he was, for a long time, annually chosen president of the Common Council of that borough. He was also one of the oldest and most distinguished members of the Masonic order in that state.

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NORTH-CAROLINA.

DIED, at his seat in Surry county, after a lingering illness, hon. JESSE FRANKLIN, aged about 65. It may be doubted whether the major has left behind him in the state a more patriotic and highly respected citizen. No man in it has been more employed in public business. He fought bravely for his country in the revolutionary war; and besides executing other important commissions, has since served in a legislative capacity, not only in the General Assembly of the state, but for many years in both houses of Congress, and lastly presided over the state as governor: in all which capacities he acquitted himself faithfully and honorably, always maintaining the character of a firm republican and an honest man.

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SOUTH-CAROLINA.

DIED, in Columbia, Mr. GEO. BLACKBURN, formerly professor of mathematics in the South-Carolina college. Mr. Blackburn was a native of Ireland, where, in early life, he had received a liberal education; and after his emigration to this country, was employed in various seminaries of learning, as a teacher of

mathematics. The peculiar facility he possessed of communicating knowledge to others, together with his extensive acquirements, enabled him to fill the various stations he from time to time held, with distinguished reputation as a teacher of that science. He taught in the male academy in Columbia up to the day of his last illness.

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At his country seat, near Camden, September 27th, in the 63d year of his age, SAMUEL MATHIS, esq. He was the first white male child born in that town, and filled several public offices, the duties of which he discharged with promptitude and general satisfaction.

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On the first of October, after an illness of 20 hours, in the 40th year of his age, JOHN E. FARR, esq, one of the most successful and enterprizing planters in the state of South-Carolina.

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GEORGIA.

At Milledgeville, DANIEL STURGES, esq., surveyor general of the state of Georgia. Mr. Sturges had been long a most faithful and efficient officer of the state.

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KENTUCKY.

LEXINGTON, SEPT. 2.—We have very flattering accounts of the high estimation in which the bagging manufactured in this town is held at Natchez and New-Orleans. A great improvement in the quality has been made by the manufacturers, and we are happy to hear that the best judges admit its superiority over the Scotch bagging.

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ALABAMA.

At the residence of her husband, in the state of Alabama, on the 16th of August, Mrs. MARTHA PICKENS, wife of the hon. Israel Pickins, governor of the state —a lady of great virtue and accomplishments. Besides her husband, she has left four young children destitute of their dearest friend on earth.

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At Russellville, Franklin county, JOHN S. FULTON, esq., after a lingering illness of a few days. He had but just completed a fatiguing canvass as a candidate for Congress for the middle district, and was taken sick soon after his return home.

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In September last, in the 83d year of his age, DON MIGUEL ESLAVA, a respectable inhabitant of Mobile. He was a native of Mexico, and entered the Spanish service at an early period. In Louisiana and the Floridas, he served his country in various civil and military employments for upwards of forty years, with a zeal that never flagged, and a fidelity that never changed. When the United States took possession of Mobile, in 1813, Don Miguel, who for several years had received no pay from his government, was induced, on account of his private affairs, to remain in the country of his children, and for their sake, to make it the place of his future residence, and where from the laws of the republic, he sought that protection for his property, which his former sovereign could no longer afford. Under the government of the United States he shewed himself, on every occasion, the good citizen, and in his obedience to the laws, and cheerful acquiescence in the new order of things, he set an example to foreigners worthy of imitation. Don Miguel possessed a mind of the first order, and which he retained, in all the freshness of its vigor, until the hour of his death. He wrote the Spanish language with ease, fluency, and eloquence; and was well versed in French literature.

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On the 4th of October, at Huntsville, Mrs. F. T. ROSE, sister of Mr. Madison, the late president of the United States. Her death was the issue of a long and painful complaint, which she bore to the last with that humble submission to the will of Heaven, which corresponded with the faith she professed, and the hope which she cherished. It would be improper not to say of her who has just passed to the tomb, that her excellent understanding, and more than ordinary acquirements, made her an interesting member of every society wherein she was placed; that to the kindred circle to which she belonged, she was particularly endeared by many virtues, and that to the husband and numerous offspring she has left behind her, she was every thing that could be wished in a wife, or admired in a mother.

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At his residence near Cahawba, Dallas

county, on the 20th October, JAMES S. GAINES, aged about 45 years. In the death of major Gaines, society has sustained a serious loss, and his children a most affectionate and indulgent parent. In the fore part of the summer, his family were visited with a fever of a very malignant type, which swept off his wife and one daughter, and scarcely left the rest with life. Simultaneous with the sickness of his family here, he lost a son at St. Stephen's. Naturally of a very warm and affectionate disposition, these repeated and sudden shocks were too much for him to bear; his health visibly declined, he lost his usual strength of mind, and, in fact, was, for some time previous to his death, evidently deranged. In this situation, he was attacked with a fever, to which he fell a victim.

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Near St. Stephen's, on the 3d day of June last, Mrs. Amy Toulmin, wife of Mr. John B. Toulmin, of that place. She was born at Falmouth, in Cornwall, England, on the 18th day of May, 1789, and out of four beautiful children, lost three soon after her removal to America. A more amiable woman could not easily be found. Pious, mild, gentle, intelligent, she was certainly one of the greatest ornaments of her sex. She was a woman of extraordinary vigour and exertion. Well educated in literature, as well as in morals, she acquired after the death of her father-in-law, Dr Joshua Toulmin, pastor of the Unitarian church at Birmingham, a knowledge of Weston's most complicated system of short-hand, in which Dr. Toulmin's sermons were written. She selected out of several hundred sermons, an octavo volume of the most interesting and pathetic discourses. They have reached America.

She was born of a quaker family, and professed the faith of the Friends. Perhaps she was not under the dominion of their full faith and discipline. Certainly she was not an exclusive quaker. She frequented the worship of other Christian churches. Her religion did not consist in dress, in form, or in ceremonies. Yet the quietness of her manners, the zeal of charity, her diffusive spirit of benevolence, her speedy forgiveness of injuries, though quickly felt at the moment, entitled her to the character of a quaker. No —not exactly; but to the character of an almost perfect Christian. C.

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At his place of residence, in Washington county, on the 11th of November, in his 57th year, the hon. HARRY TOULMIN, late a judge of the District Court of the United States, for the district of Mississippi.

Mr. Toulmin was descended from a very ancient and respectable family in England. He was born at Taunton, in Somersetshire. His father, Dr. Joshua Toulmin, was as distinguished for his piety and benevolence, as for his literary and scientific acquirements. Under such a father, and at one of the principal dissenting seminaries of England, was the subject of this notice educated for the church. He was settled for a number of years, as a dissenting minister, at Chowbert, Lancashire. About the commencement of the French revolution, when party feeling ran high, judge Toulmin became obnoxious to the ruling party, from the freedom with which he wrote, and the boldness with which he supported the principles of liberty and the rights of man; and as, in consequence thereof, there existed, against him, considerable persecution, he sought that country whose cause he had embraced, and dedicated himself to its service. In the year 1793 he landed at Norfolk, in Virginia, where he was received with that respect and cordiality of feeling which his talents and principles deserved. In 1794 he was appointed president of the Transylvania seminary, in Kentucky, to which state he removed; he continued at the head of that seminary between two and three years, after which he was chosen secretary of state of the state of Kentucky, in which office he remained until 1804, when he was appointed judge of the federal court for the Mississippi territory, and removed thither the following year. He was chosen to digest the laws of that territory, and finished their compilation in 1807. On the formation of the state of Alabama into a separate government, he served in the Convention; and assisted in the formation of the constitution, and has since served in the legislature of the state as a representative. During the last year he was appointed to digest the laws, which service was performed to the acceptance of the legislature. The personal character of the deceased is thus summed up by his faithful biographer: "He placed not his happiness in ostentation, but referred the whole to conscience, and sought the reward of his virtues, not in the clamorous applauses of the world, but in the silent satisfaction which results from having acted well."

METEOROLOGICAL REPORT FOR JULY, 1823.

JULY.	Thermometer 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts.
T 1	65	72	68	S.E Cloudy & showers	
W 2	72	85	79	S.NW. Thunder gust,	.33
Th 3	75	84	80	N.NE. Cloudy [p m.	
F 4	74	85	77	SE. Fine [gust, p. m	
Sat 5	76	87	77	SW.NW. Thunder	.29
S 6	77	90	80	SW.W. Fine	
M 7	79	89	80	SW.W. Cloudy	
T 8	81	86	80	NW. Fine	
W 9	81	87	79	NW.SW. Fine	
Th 10	82	90	83	SE.SW. Fine	
F 11	85	89	82	SW NW. Lightning,	
Sat 12	82	91	83	NW.SW. Fine [p. m.	
S 13	75	82	72	N. Cloudy	
M 14	72	82	75	NW.SW. Fine [p. m	
T 15	76	89	76	SW.NW Heavy rain,	.27
W 16	75	88	78	SW.N. Brisk wind	
Th 17	77	84	76	NW.S. Rain, p. m.	.24
F 18	76	76	72	SW.NE. Rain, p. m.	.36
Sat 19	76	83	76	N.NE Fine	
S 20	70	79	72	NE. Fine	
M 21	76	80	69	NE. Cloudy	
T 22	72	80	72	NE.SE. Fine. Eclipse moon at night. Total darkness began 9h30'	
W 23	70	81	73	SW.SE. Fine [by obs	
Th 24	73	78	74	SE.E. Cld. shr's night	
F 25	69	70	69	SE. Continued rain	2.00
Sat 26	70	78	75	NE.SE. Cloudy, show-	.10
S 27	76	82	79	SW.NW the same [ers	.07
M 28	76	85	79	SW. Fine, dis't thun'r	
T 29	80	75	75	SW. Windy, thunder	.78
W 30	75	83	74	SSW. Cloudy [gust pm	Total inc's 4.44
Th 31	75	82	75	NW. Fine	

Rain fell in Cheshire, (England,) July, 1822, 7.81

	Fahrenheit.	*Centigrade.*	*Reaumur.*
Mean heat of the month, -	78	25½	20½
Maximum, - - - -	91	33	26
Minimum, - - - -	65	18½	14

Mean heat in England, July, 1822, 58.

REPORT FOR AUGUST, 1823.

AUG'ST.	Thermometer 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts
F 1	74	85	78	SW.SE. Fine	
Sat 2	78	83	74	N.SW. Do.; thunder	10
S 3	76	82	78	SW.S. Fine [gust, p.m.	
M 4	76	87	78	SW. Thunder and rain	34
T 5	76	85	72	SW.NE. Fine; thun	14
W 6	75	83	78	NE.SE. Fine [der, p.m	50
Th 7	77	85	82	SW· Clouds	
F 8	80	92	84	SW. Fair	
Sat 9	76	84	78	NW.SE. Fair	
S 10	75	82	75	SE Showers	10
M 11	75	78	76	SW. Tempestuous	
T 12	76	82	74	SW.NW. Thunder g'st	1.04
W 13	76	78	75	S Showers	08
Th 14	76	83	78	NW.SW. Fine.	
F 15	73	78	74	NE. Fog, followed by a violent tempest, thunder and rain, at night	1.70
Sat 16	74	75	67	NW.NE. Brisk wind	
S 17	68	75	73	N.NW. Fine	
M 18	75	78	75	SW.S. Thunder show-	12
T 19	76	83	78	NW.SW. Fine [ers	
W 20	76	86	79	Do. Do.	
Th 21	74	82	74	Do. Slight show-	04
F 22	68	74	63	N.NW. Fine [ers	
Sat 23	64	75	65	NE.E. Brisk wind	
S 24	66	76	68	Do. Fine	
M 25	65	76	67	Do. Do.	
T 26	67	78	71	NE.SE. Do.	
W 27	67	81	74	SW. Do.	
Th 28	70	85	78	SSW. Do.	
F 29	74	86	77	SW. Do.	
Sat 30	77	87	79	SW.SE. Do.	
S 31	78	87	80	SW. Do.	Tot. 4.16

Rain fell in Cheshire, (England,) August, 1822, 3.54.

	Fahrenheit.	*Centigrade.*	*Reaumur.*
Average heat of the month, - -	73	23	18
Maximum, - - - -	92	34	26¼
Minimum, - - - -	63	17	13½

Mean heat in England, August, 1822, 58.

Diminution of mean heat, from last month, 5.

REPORT FOR SEPTEMBER, 1823.

SEPT'R.	Thermometer 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts.
M 1	70	80	72	SW.NW. Fine	
T 2	70	80	72	SW. Fine	
W 3	70	80	72	SW. Fine	
Th 4	70	80	72	SW. Fine	
F 5	70	80	72	SW. Fine	
Sat 6	70	80	72	SW. Fine	
S 7	70	80	72	SW. Fine	
M 8	70	80	72	SW. Fine	
T 9	70	80	72	SW. Fine	
W 10	70	80	72	SW. Fine	
Th 11	70	80	72	SW. Fine	
F 12	70	80	72	SW. Fine	
Sat 13	70	80	72	SW. Fine	
S 14	70	80	72	SW. Fine	
M 15	70	80	72	SW. Fine	
T 16	70	80	72	SW. Fine	
W 17	70	80	72	SW. Fine	
Th 18	70	80	72	SW. Fine	
F 19	70	80	72	SW. Fine	
Sat 20	70	80	72	SW. Fine	
S 21	70	80	72	SW. Fine	
M 22	70	80	72	SW. Fine	
T 23	70	80	72	SW. Fine	
W 24	70	80	72	SW. Fine	
Th 25	70	80	72	SW. Fine	
F 26	70	80	72	SW. Fine	
Sat 27	70	80	72	SW. Fine	
S 28	70	80	72	SW. Fine	
M 29	70	80	72	SW. Fine	
T 30	70	80	72	SW. Fine	

REPORT FOR OCTOBER, 1823.

OCT'BER.	Thermometer 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts
W 1	70	80	72	SW. Fine	
Th 2	70	80	72	SW. Fine	
F 3	70	80	72	SW. Fine	
Sat 4	70	80	72	SW. Fine	
S 5	70	80	72	SW. Fine	
M 6	70	80	72	SW. Fine	
T 7	70	80	72	SW. Fine	
W 8	70	80	72	SW. Fine	
Th 9	70	80	72	SW. Fine	
F 10	70	80	72	SW. Fine	
Sat 11	70	80	72	SW. Fine	
S 12	70	80	72	SW. Fine	
M 13	70	80	72	SW. Fine	
T 14	70	80	72	SW. Fine	
W 15	70	80	72	SW. Fine	
Th 16	70	80	72	SW. Fine	
F 17	70	80	72	SW. Fine	
Sat 18	70	80	72	SW. Fine	
S 19	70	80	72	SW. Fine	
M 20	70	80	72	SW. Fine	
T 21	70	80	72	SW. Fine	
W 22	70	80	72	SW. Fine	
Th 23	70	80	72	SW. Fine	
F 24	70	80	72	SW. Fine	
Sat 25	70	80	72	SW. Fine	
S 26	70	80	72	SW. Fine	
M 27	70	80	72	SW. Fine	
T 28	70	80	72	SW. Fine	
W 29	70	80	72	SW. Fine	
Th 30	70	80	72	SW. Fine	
F 31	70	80	72	SW. Fine	

REPORT FOR SEPTEMBER, 1823.

SEPT.	Thermometer. 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts.
M 1	77	85	74	N.NE. Cloudy brisk air	
T 2	68	77	67	NE.SE. The same	
W 3	65	82	76	NE SW. Clear	
Th 4	76	87	79	SW. Windy and slight	
F 5	74	83	76	NE.SW. Clear [show'rs	
Sat 6	75	85	79	SW.S. Fine	
S 7	77	82	78	SW.S. Showers at night	.16
M 8	70	68	65	NE. Wind and rain	.14
T 9	65	65	64	NE. Cloudy	
W 10	66	71	64	NE. Showers	.36
Th 11	67	77	71	NE. Showers	.24
F 12	69	79	74	E.NE. Clear	
Sat 13	74	78	72	E.SW. Heavy rain	.70
S 14	72	76	69	NW. Clear	
M 15	65	73	68	N SE. Cloudy	
T 16	68	74	74	NE.SE. Showers	.16
W 17	74	78	76	SE.S. Showers	.44
Th 18	75	82	74	SW.S. Fine	
F 19	68	76	69	NW.SW. Fine [night	
Sat 20	69	79	66	SW.NW. Gale & show.	.17
S 21	58	63	56	N.NW. Slight shower	.04
M 22	54	63	53	NE. Cloudy	
T 23	50	50	53	NE. Cloudy	
W 24	54	65	58	N. Clear	
Th 25	58	66	63	NE. Cloudy	
F 25	63	72	63	NE NW. Clear	
Sat 27	56	65	54	N.NW. Clear	
S 28	58	65	54	NW. Brisk wind	
M 29	55	66	52	NE.NW. Cl. & windy.	
T 30	42	60	53	N.SW. Sharp frost early	
				Total	2.41

Rain in September, 1822, in Cheshire, England 1.32

	Reaumur.	Centigrade.	Fahrenheit.
Average heat,	16	20	68
Maximum,	25	30½	87
Minimum,	14½	5½	42

Mean heat in England, September, 1822, 54.
Diminution of the mean heat from last month, 5.

REPORT FOR OCTOBER, 1823.

OCTOB.	Thermometer. 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts.
W 1	46	67	56	SW.S. Fog. clear PM.	
Th 2	46	70	55	SE.SW. Do. Do.	
F 3	43	70	61	E.SE. Do.	
Sat 4	58	76	69	NE.SE. Cloudy	
S 5	66	76	66	S.SE. Heavy rain	1.22
M 6	60	66	54	N. Cloudy, clear	
T 7	48	65	57	NE. Clear	
W 8	56	69	61	SE. Cloudy showers	.07
Th 9	56	70	64	SW. Fog. clear PM.	
F 10	52	61	49	NW. Clear and windy	
Sat 11	43	58	48	NW. Do.	
S 12	50	62	54	NE.SE. Fine	
M 13	50	72	70	SE.SW. Indian summer	
T 14	48	62	48	N. Clear	
W 15	40	61	56	NE.SE. Do.	
Th 16	54	58	56	NE. Rain	0.22
F 17	50	59	46	NW. Clear and windy	
Sat 18	38	47	36	NW. Slight sh. & sleet	
S 19	34	47	42	NW.SW. Sharp frost	
M 20	40	58	49	SW.SE. Clear	
T 21	42	62	53	NE.SW. Cl. & th'r rain	0.28
W 22	45	49	44	SW.NW. Fair	
Th 23	44	58	58	SW. Brisk wind	
F 24	54	65	54	NW SW. Indian sum'r	
Sat 25	50	56	46	N.NW. High wind.	
S 26	40	52	43	NW. Clouds and wind	
M 27	42	58	50	NW. Clear.	
T 28	43	64	54	NW. Indian summer	
W 29	48	49	45	NE. Rain and wind	0.13
Th 30	42	54	42	N. Clear	
F 31	35	55	44	NE. Do..	
				Tot.	1.92

Rain fell in Cheshire, England, in October, 1822, 3.3

	Reaumur.	Centigrade.	Fahrenheit.
Average heat,	9	11¼	54
Maximum,	19	24¾	76
Minimum,	1	1	34

Mean heat in England, October, 1822, 50.
Diminution of the mean heat from last month, 14.

REPORT FOR NOVEMBER, 1823.

NOVEM.		Thermometer. 7 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts
Sat	1	48	53	46	SE.SW. Slight showers	.15
S	2	32	48	33	NW. Clear	
M	3	32	46	38	NW. Do.	
T	4	36	52	42	SW. Cloudy	
W	5	44	42	40	NE. Do. and rain	.03
Th	6	38	45	40	NE. Do.	.62
F	7	38	42	38	N. Do.	.15
Sat	8	36	44	37	N. Do.	.30
S	9	30	50	46	SW.S. Clear	
M	10	48	58	58	SW. Slight showers	.15
T	11	60	48	40	NW. Cloudy, rain	.10
W	12	34	45	34	NW. Clear	
Th	13	34	50	42	SW. Do.	
F	14	36	56	50	SW. Do.	
Sat	15	40	58	46	NE.NW. Do.	
S	16	34	52	34	N. Do.	
M	17	30	38	32	NE. Cloudy and sleet	
T	18	26	35	28	NW. Snow on ground	.02
W	19	28	45	32	SW. Snow melted	
Th	20	28	50	38	NE.SW. Fine	
F	21	45	54	52	SW. Indian summer	
Sat	22	50	60	48	SW. Do.	
S	23	36	50	40	NW. Clear	
M	24	32	38	32	NE. Some snow	
T	25	32	48	42	NE. Rain and fog	.47
W	26	40	51	47	SW. Cloudy	
Th	27	40	46	42	W. Clearing up	
F	28	34	42	30	NW. Cloudy	
Sat	29	24	34	30	NE N. Clear	
S	30	24	38	34	N.W. Do.	
					Total rain, *inch,*	1 99

Rain in Cheshire, England, in November, 1822, 3.24

	Fahrenheit.	*Centigrade.*	*Reaumur.*
Average heat,	41	5	4
Maximum,	60	15½	12½
Minimum,	24	0-4½	0-3½

Mean heat in England, November, 1822, 45.
Diminution of heat from last month, 13.

REPORT FOR DECEMBER, 1823.

DEC'R.		Thermometer. 8 A M	2 P M	9 P M	Wind and Weather.	Rain. in 100 pts.
M	1	30	46	36	SW. Clear	
T	2	28	50	36	SW NW. Hazy	
W	3	29	50	41	NE.SW. Do.	
Th	4	40	44	42	NE.NW. Heavy rain	1.62
F	5	35	45	34	NW. Clear	
Sat	6	29	42	36	S.SW. Do.	
S	7	40	54	40	SW. Hazy	
M	8	32	41	33	N. Do.	
T	9	26	28	26	NE. Cloudy and wind,	
W	10	26	38	33	N NW with some snow	
Th	11	30	38	32	NE.SE. Fair	
F	12	32	34	34	SE.SW Rain	.40
Sat	13	32	41	30	SW.SE. Fine	
S	14	28	38	34	NE. Hazy	
M	15	30	36	34	NW. Some snow	.04
T	16	30	36	32	NW. Clear	
W	17	26	38	29	NW. Do.	
Th	18	29	45	40	SW. Do.	
F	19	36	46	38	SW.NW. Heavy rain	1.23
Sat	20	40	43	36	NW. Windy	
S	21	32	38	32	NW. Clear	
M	22	28	41	40	NW.W. Cloudy	
T	23	40	59	58	SW.S. Rain	
W	24	38	36	29	SW. Do. and windy	1.46
Th	25	26	33	31	NW SW. Clear	
F	26	30	42	34	NW. Do	
Sat	27	33	46	38	SW. Slight showers	.11
S	28	40	55	43	SW.N. Do.	.04
M	29	36	48	40	NE. Clear	
T	30	33	45	44	NW.SW. Cloudy	
W	31	40	50	48	SW Fair	Tot. 4.90

Rain in Cheshire, England, in December, 1822, 181

	Fahrenheit.	*Centigrade.*	*Reaumur.*
Average heat,	37	3	2½
Maximum,	59	15	12
Minimum,	26	0-3½	0-2

Mean heat in England, December, 1822. 33.
Diminution of heat from last month, 7.

Total rain, *inch*, 1 99

Rain in Cheshire, England, in November, 1822, 3.24

Average, 31
Maximum, 40
Minimum, 50
Mean, 48
Diurnal, SW Fair

Rain in Cheshire, England, in December, 1822, 181

Average,
Maximum,
Minimum,
Mean,
Diurnal,

REFERENCES

To JOHN THOMAS'S Improvement in Blocks, for Lifting, and also for Launching Ships.

A, the vertical section of the keel of a ship.
B, the upper part of the block, half the width of which is inclined internally upwards, and the other half downwards; with its iron guides on each outward side.
C, C, the lifting pins.
D, the lower part of the block, like the upper one, only inverted.
E, and F, the fore and aft views of the wedges.
G, the battering ram.
H, H, H, H, the holes for the ropes.

REFERENCES

To JOHN THOMAS'S Machine or Instrument for Cogueing, or Dowelling Vessels; or any kind of Wood-Work.

A, the stock made of metal.
B, the screw that secures the chisel bit.
C, the scribing bit secured by a screw.
D, the part that steadies the instrument.
E, the socket that receives the spill.
F, the spill that turns the instrument.
G, the pin that secures the spill in the socket.
H, the gouge bit secured by a screw.

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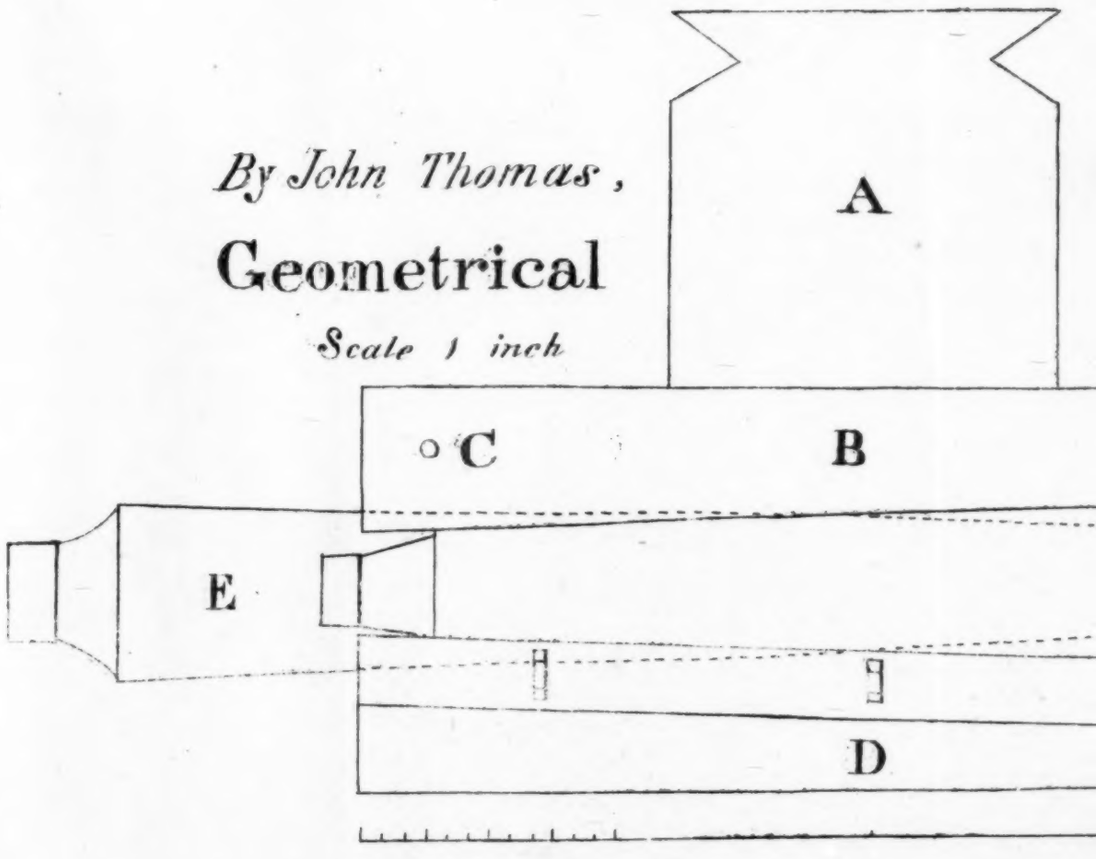
An improvement in BLOCKS for LIFTI

SHIPS

By John Thomas,

Geometrical

Scale 1 inch



Perspective

TTING, as also for launching,

PS.

of Washington. D.C.

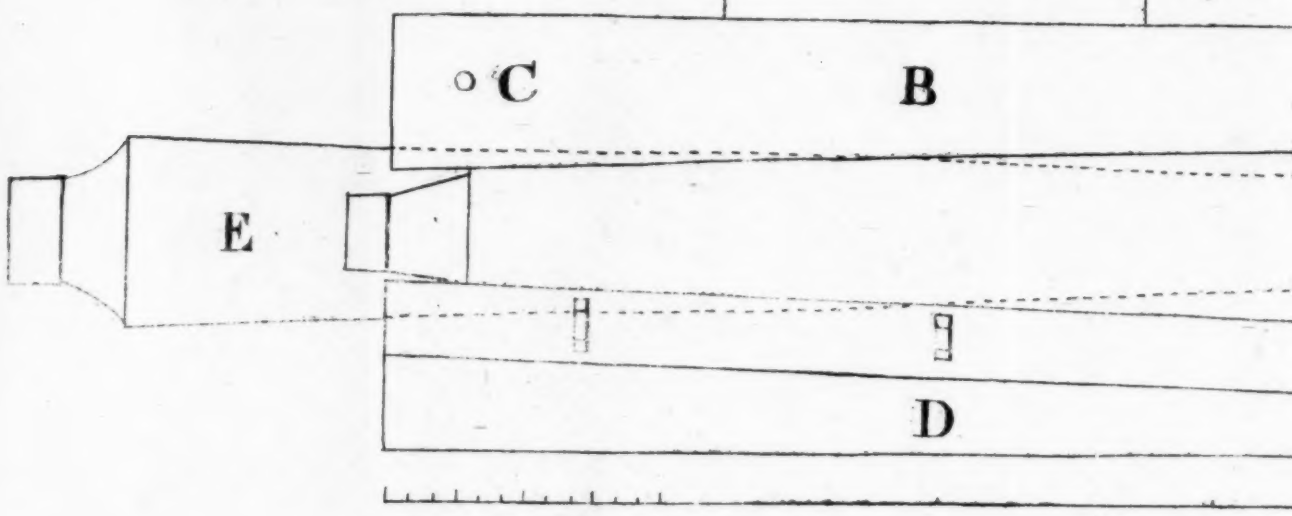
Elevation.

to the foot.

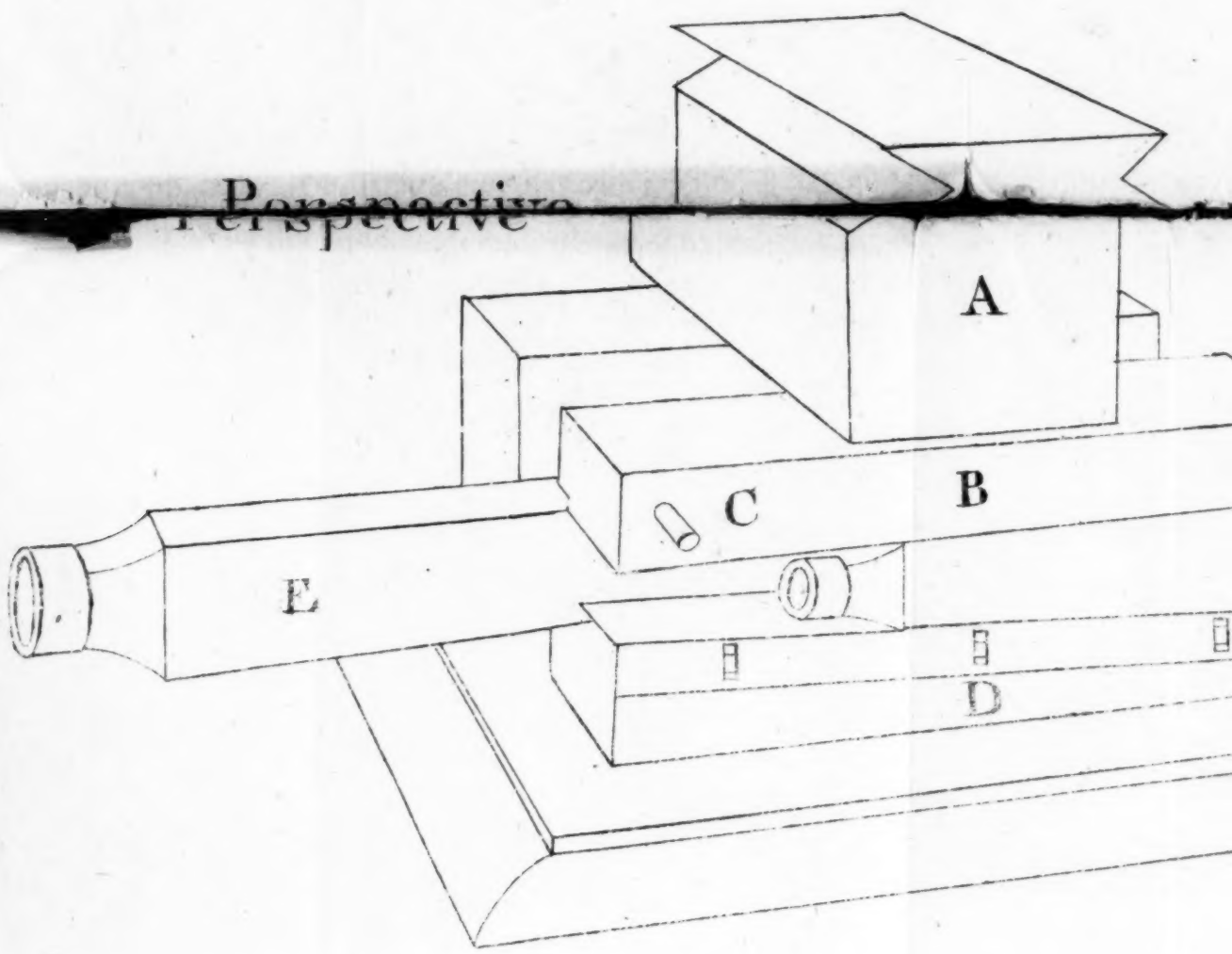
Views

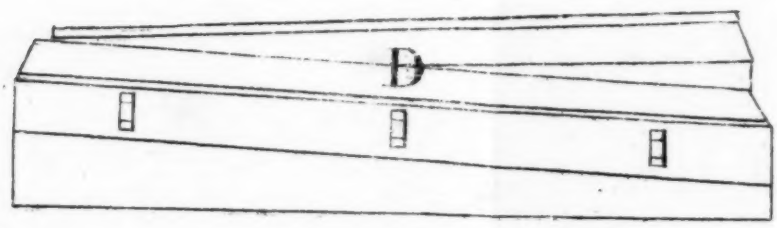
Geometrical

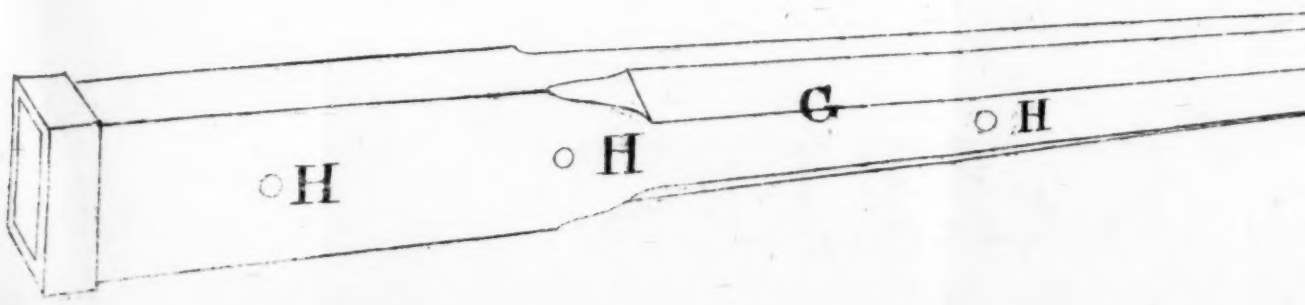
Scale 1 inch



Perspective



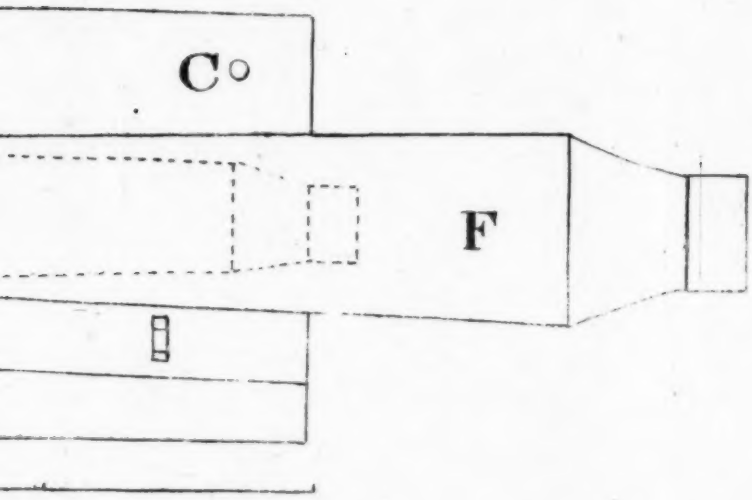


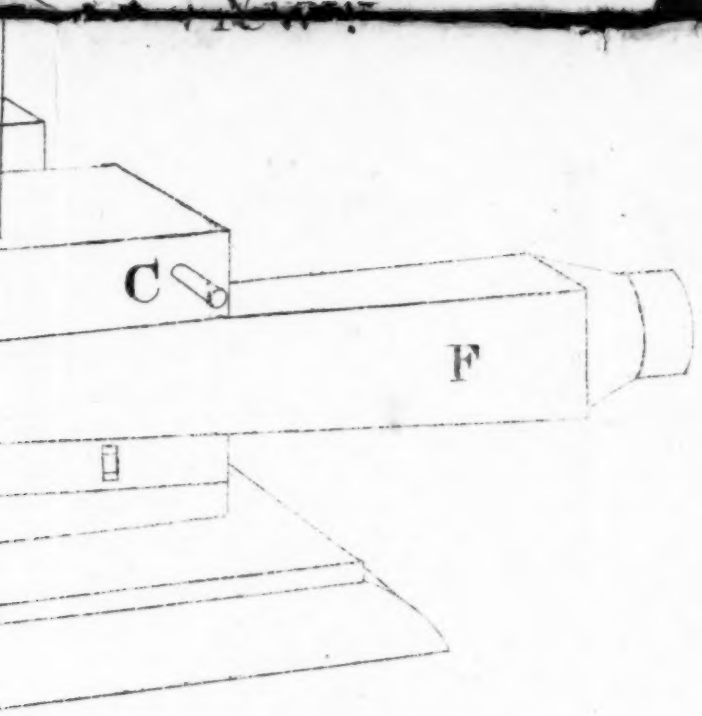


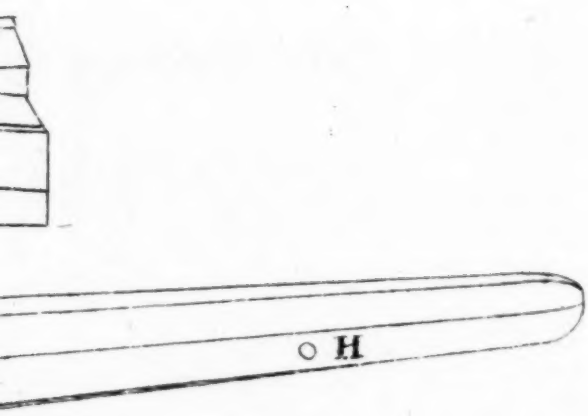
Henry Stone Lithog Washing?

Elevation.

to the foot.

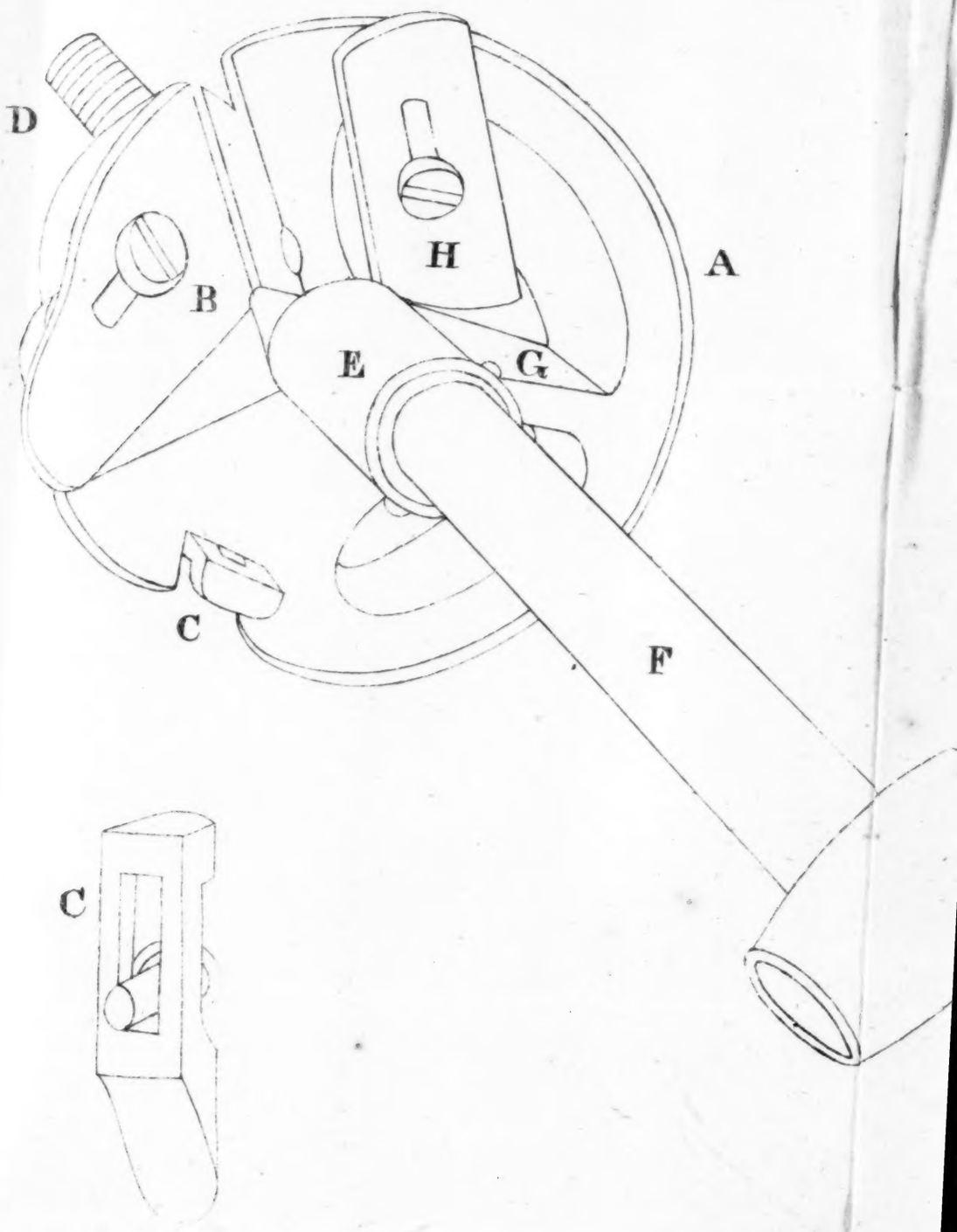






ung.ᵗ D. C. 1824.

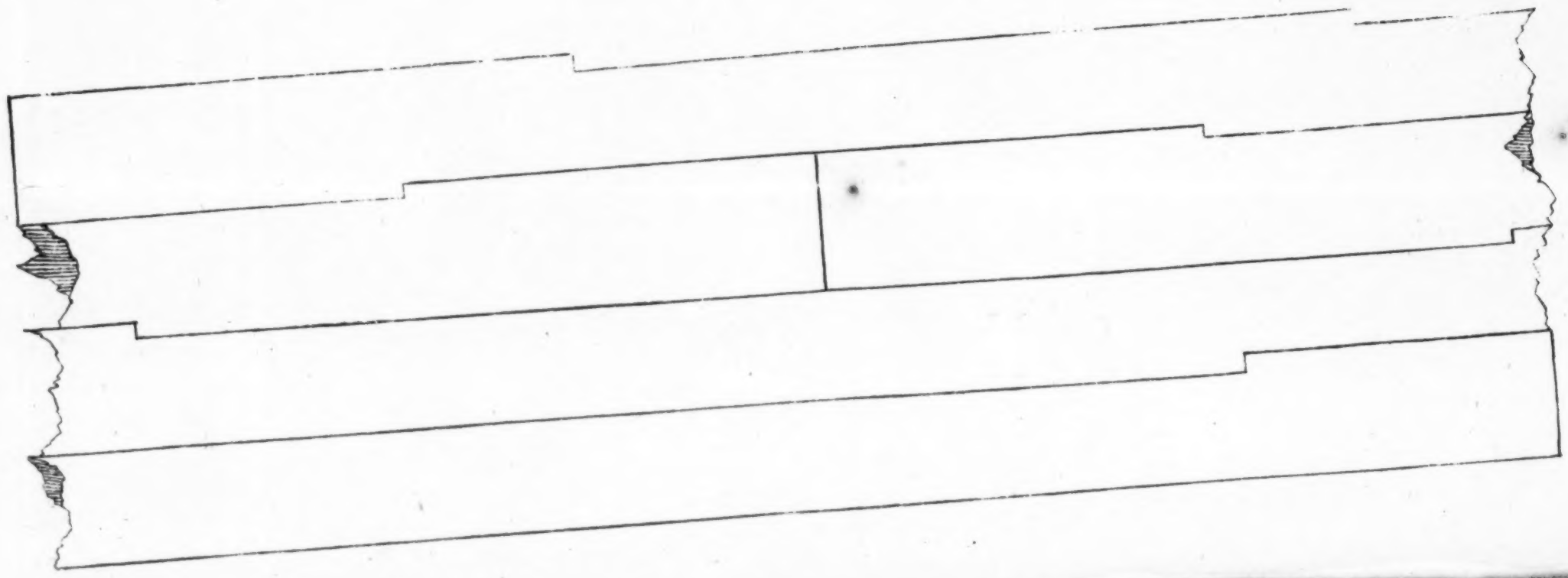
John Thomas's *instrument or machine for Cogueing, or Dowelling Vefsels, or any kind of wood work.*



Henry Stone, Lithog. Washi

Washington D.C. 1824.

John Thomas's, *improvement in planking Vessels by hooking or jogging the planks.*



DRAWINGS

OF

SAMUEL BROWN'S APPARATUS

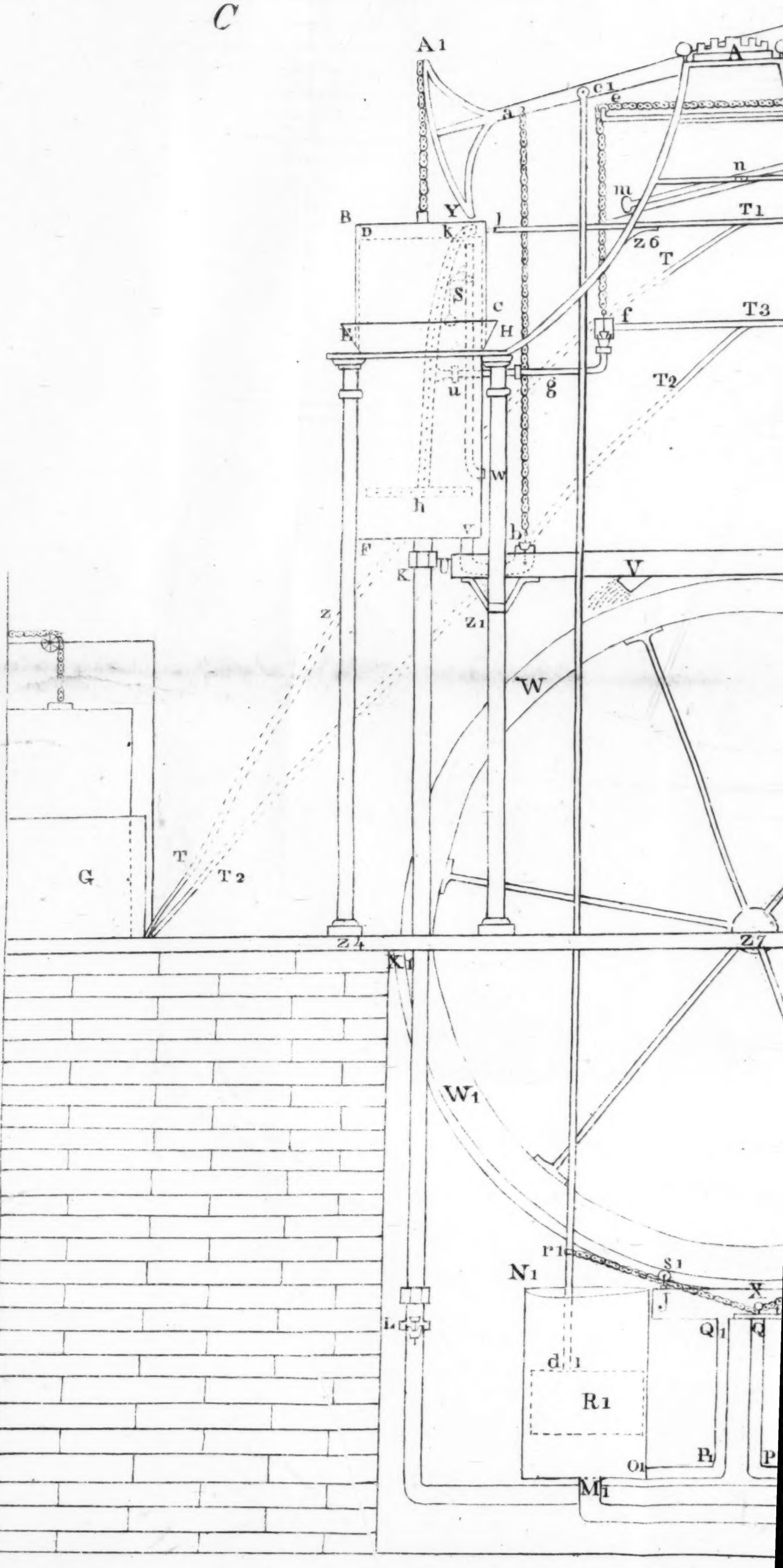
FOR

PROPELLING VESSELS, &c.,

WITHOUT THE AID OF STEAM.

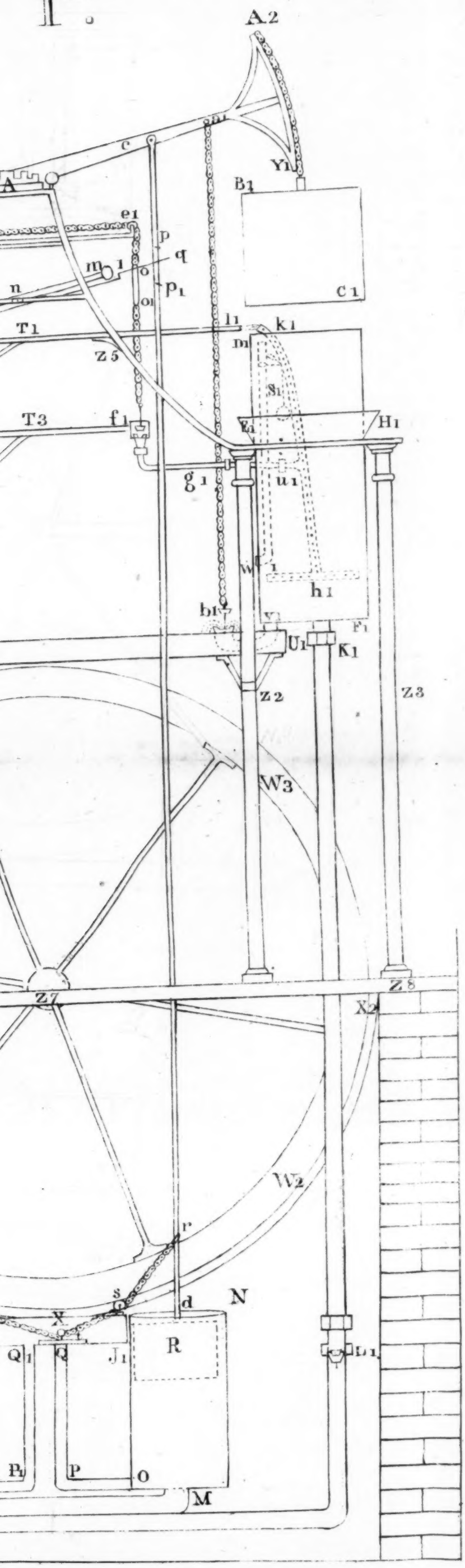
DRAWING

C



Henry Sto

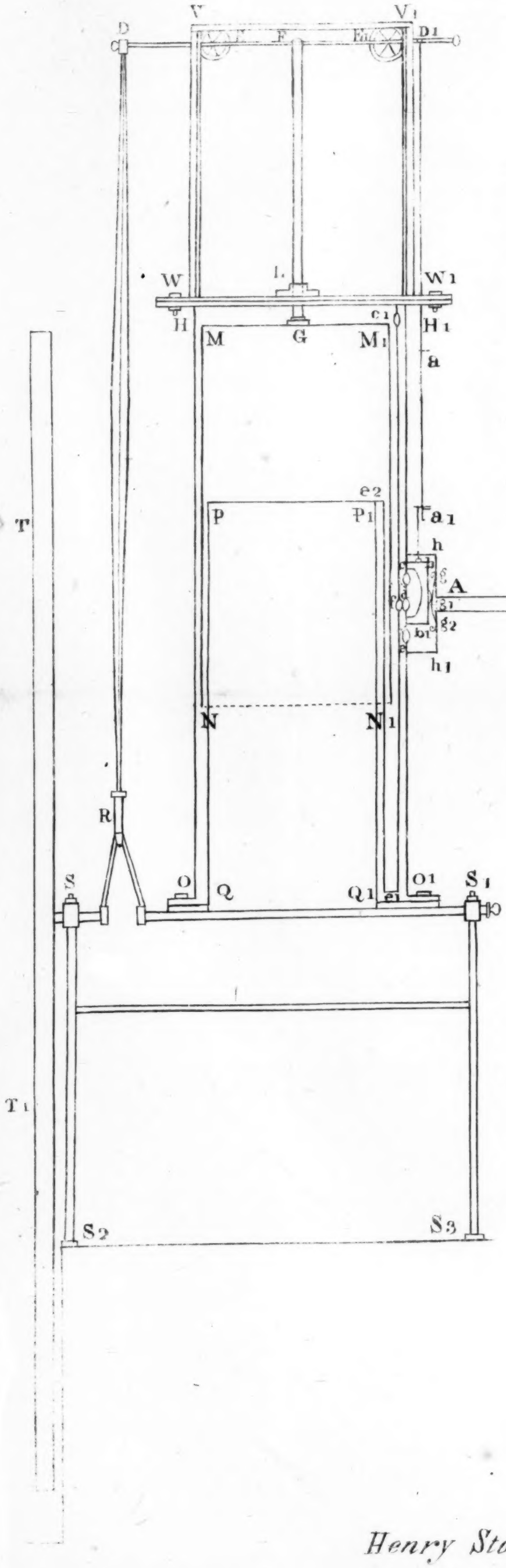
I st.



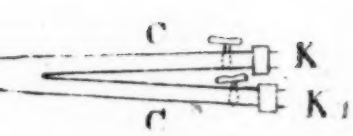
ry Stone Lithog. Washing.ⁿ D.C. 1824.

DRAWING III^{d}.

B



Henry Stone Lithog Wash



Washing.ⁿ D.C. 1824